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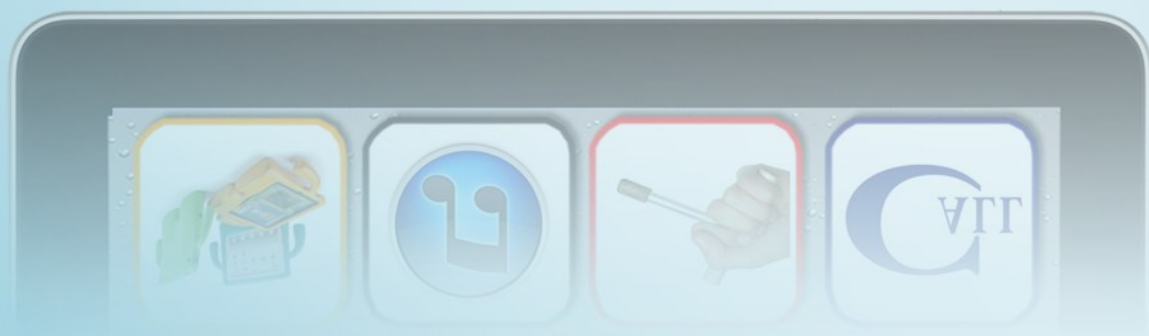
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iPads for Communication, Access, Literacy and Learning (iCALL)



A guide to using the iPad with children and adults who may require additional support

iPads for Communication, Access, Literacy and Learning (iCALL)

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Introduction

Thinking of buying an iPad and some Apps for your child, pupil, student, class, or for the whole school? Or for one or more of your speech and language therapy clients?



Mobile devices such iPads, iPods and iPhones have taken the world by storm and are increasingly used in teaching and learning, and/or in therapy, to support learners with additional support needs, as well as for personal use. We are aware that people are all at different levels of experience in their use of iPads.

You may be just considering purchasing an iPad and some Apps, or perhaps you have already purchased a device - maybe you've even already planned or adopted a school-wide iPad implementation, providing access for all learners.

Section 1 of this Guide should help you to master the basics of getting to know the device and mastering some of the new and interesting features that it introduces.

We hope this Guide will provide you with helpful information and resources to help you on your way.

The primary aim of the Guide is to offer support to readers who are not necessarily technical specialists and who want to use the iPad with children or adults with some kind of additional support needs, special educational needs or disability.

We are imagining such readers to be parents and carers, teachers and other education staff, speech and language therapists, occupational therapists and other professionals.

Who can benefit from using an iPad and Apps?

It seems that the iPad and Apps can potentially offer ‘something for everyone’ in education. If you search the internet, you might find a large number of links relating to the iPad and autism. But many other different types of users can also benefit.

For example:

- Pre-school and Early Years children.
- Learners with: speech, language and communication problems; literacy difficulties, developmental delays and learning difficulties; visual impairments; as well as autism.
- The iPad can also be used as a communication aid (augmentative and alternative communication - ‘AAC’).
- iPads may sometimes engage and motivate reluctant pupils/students where other approaches have failed.
- Older and more able learners - and indeed staff - may find iPad Apps that help them to organise and manage their work flow efficiently.

We have included a short ‘Glossary’ on Page 107 of the Guide, as the world of iPads, iPods and iPhones introduces a number of new terminologies and acronyms.

The key new term is ‘**App**’, which just stands for ‘application’ and which refers to programs that you can run in your iPad/iPod/iPhone. (An iPad is useless on its own; the important thing is finding the right Apps.

In Section 2 of this Guide, we suggest some headings and categories that may help you to sort through the vast, rapidly changing and ever-growing field of Apps

in order to identify and evaluate those that might be useful.

We do not attempt the impossible, so there is no totally comprehensive list of Apps here, but rather informative suggestions for each category.

As well as providing information, the Guide also asks some reflective questions and raises issues for you and your school or organisation to consider.

Hopefully these could help to inform your plans and decisions, to ensure everything runs smoothly when you do start using iPads with your learners.

Why iPads?

iPads are undoubtedly very desirable and popular. But iPads are certainly not ‘miracle solutions’ for every user in every context! Here are some possible ‘Pros’ and Cons’.

Pros

- iPads are ‘cool’ - attractive and potentially motivating.
- iPads are light, slim and highly portable and shareable (but also easily droppable, lose-able and steal-able...)
- As mainstream technology aimed at the mass market, iPads are:
 - relatively affordable at least compared with specialist technology such as interactive whiteboards, touch monitors, dedicated communication aids etc.
 - inclusive and age-appropriate - less risk of users feeling stigmatised or standing out as ‘different’.
- Excellent design: intuitive and easy to use; very bright clear screen (a bit over-reflective / glarey, though, for some users); innovative features; immediate ‘booting up’; fast processing etc.
- Pioneering technology - new developments and new Apps and accessories appearing all the time.
- Versatile, easy to share between pupils - and fun!
- Parents can buy and have ownership of their child’s use of educational / communication technology.

Cons

- Limited access possibilities - though this is gradually improving; keyguards and switch access are now starting to appear (see Chapter 3 of this Guide: Accessibility Options).
- The Home button and access to other Apps can be highly distracting.
- Over-hyped - may raise unrealistic expectations.
- You can’t always try Apps before you buy.
- You can’t run standard computer software on them.
- Tricky to manage iTunes accounts, multiple devices and backups etc. in schools and therapy settings (see Chapter 7 of this Guide).
- Service providers (schools, local authorities, NHS) may see iPads as a way to save money, and start delaying or blocking access to other more specialised technology - that may be needed.

- Puts additional support needs professionals and learners at the mercy of commercial forces.
- Unlike with specialist equipment, little or no support or training is available from suppliers.
- Parents can buy and have ownership of their child's use of educational / communication technology.
- While there is a great deal of anecdotal evidence to suggest that iPads are beneficial in education and therapy, it is too early perhaps to be able to point to solid research-based evidence.
- There are no options to expand the memory or use external memory cards and/or USB memory sticks.
- To use an iPad effectively, some degree of cognitive and physical skill and flexibility is required:
 - Physical /coordination skills - accurate touch, swipe, pinch (sometimes in combination).
 - Operational skills - basic device controls, mastering navigation etc.

Having said that, children seem to learn very fast how to operate an iPad, and we have seen evidence that some of those that can't at first, seem to be willing to persist and improve their techniques.

For specific functions - for example, for communication, use of an iPad does not replace the need for key skills such as: communicative intent; initiation, requesting and other functions of language; conversational repair, etc.

And of course, without the proper preparation, a clear idea of what you are trying to achieve for/with your learner, and appropriate support, iPads and Apps, just like any other technology, could turn out to be an expensive failure.

Managing your iPads(s)

A word of warning before you start! There is a **big** difference between buying and using an iPad for yourself or a family member (pretty easy!) and buying an iPad - or several/many iPads - for a client, pupil, class or school, or as an assessment tool (pretty complicated!).

Because all App purchases, synchronisation and backups, are done through an iTunes account, you have to have a clear plan about how the account will be managed. If you get started too quickly using your own credit card you may end up in trouble later, when you try to update or transfer Apps, synch several devices to one computer, backup client data, and so on.

Chapter 5 and Appendix 1 in this Guide will take you through some of these somewhat tricky manoeuvres.

iPads only? What about iPods and iPhones? What about other mobile devices?

Throughout this Guide, we mainly use the term ‘iPad’. This is really just a convention that we have settled on, partly because the iPad tends to be the most popular device, and partly because using the full phrase ‘iPads, iPod Touches and iPhones’ every time is clumsy!

In practice, although some content in this Guide might refer exclusively to the iPad - for example, some technical details - much of the Guide is equally applicable to the iPod Touch (but not the original iPod Classic, or the iPod Shuffle or Nano music players) and to the iPhone. In particular, most of the content relating to Apps is applies equally to iPads, iPods and iPhones (or if it doesn’t we will signal this).

This particular Guide does not cover Android or other mobile platforms at this time (there may be scope to add this later). For now, we feel that the Android market is too new, too unregulated, and too vulnerable to virus infection to recommend for use in educational or therapeutic environments.

Which device and model should I get? How much do they cost?

There is no clear-cut answer to this, as it depends who is going to use the device, in what settings, and what they want to do with it. And of course, what you want to spend. Many people will go for the iPad just because it seems to be the most versatile device. It is not too big and not too small, with a startlingly clear and bright screen visible to most people even those with some visual impairment.

The iPod and iPhone are more portable, but can be slightly too small for many users, especially those with difficulties with vision and/or hand function.

The latest iPad is the New iPad (that is, the third generation of iPads) which is currently available in a range of models varying in terms of the amount of memory (16; 32; 64 GB), and whether or not, in addition to Wi-Fi, which is built-in to all iPads, they have ‘3G’ capability. 3G gives access to the internet more or less anywhere there is a 3G signal for the chosen provider - 02, 3 or Orange (not tied to the positioning of wireless routers and accessible networks).

A basic iPad 2 with 16GB of memory (Wi-Fi & Bluetooth as standard) can start at about £399. If you’re looking to buy a top of the range 64gb iPad with 3G you could pay up to as much as £650 - £700 (plus 3G costs - you need a mini SIM card and there are data-transfer costs on top).

You will find further discussion of when and why you might (or might not) need 3G in Chapter 5 of this guide.

iPods are cheaper. The latest model is the iPod 4G (fourth generation). With 8 GB of memory this costs around £180, rising to about £350 for 64GB of memory. iPods don’t offer 3G at present but may well have it soon, as newer versions come out.

If you absolutely need a phone function then obviously you need an iPhone. But many parents or education or therapy professionals specifically do not want to pay for a phone contract nor wish their child/client to be able to phone.

Pricing iPhones is complicated as it depends not only the model (4S is the latest) but also on which phone service provider and what type of contract you want.

Chapter 1: Getting to grips with the iPad



Introduction

The iPad's functionality, with its camera, microphone, Apps and iOS, has the potential to be a personal learning studio. With a bit of imagination the iPad can be a science lab, a literacy tool, an art canvas, a language lab, a music studio, a video editing suite, a games console and even a library with all your favourite eBooks. For some, it can also be a tool for communicating.

Whether you have your own personal iPad or you have iPads belonging to your school, there are some basic issues that are worth considering at the outset. From the built-in Apps, such as Contacts, Calendar, Safari and Accessibility to the added extras

available through the App Store, your iPad can open up a whole new world of possibilities - learning, usability, accessibility, functionality, enjoyment and fun! With its improved battery life and range of Apps (there are now over 200,000 Apps to choose from) the iPad can potentially be an 'anywhere, anytime' learning device making it ideal for projects and learning taking place both in and out the classroom.

This chapter gives some practical advice on getting to know your iPad and getting to grips with the iPad including helpful advice on protecting the screen and offers 20 hints and tips to help you make the most of the iPad for yourself and your learners.

First, second or third generation iPad – what's the difference?

Since the release of first generation iPad in 2010 (iPad 1), each new version has boasted new and improved features than the previous; a faster processor, better connectivity and improved battery life. In March 2011 the second generation iPad (iPad 2) was released. As well as having an improved and more powerful processor than the iPad 1, the iPad 2 was thinner and lighter but also came equipped with new front and back facing cameras.



The iPad 2 & New iPad.

At the time of writing the current iPad is the New iPad which was launched in mid-March 2012. A significant feature of the New iPad' is the high resolution screen, sometimes referred to as Retina Display.

This means that Apple have used millions of pixels (the dots that make up the LCD display) to make the App icons appear as if they are tangible objects, i.e., the icons look like real objects rather than flat screen images, and fonts look as if they are 'printed' rather than looking pixelated, particularly when magnified.

Not only does the New iPad feature a faster processor the back facing camera has been upgraded to 5 megapixels and can now take improved digital stills and high definition (HD) quality video.

As the iPad has developed so too has its operating system (iOS), currently iOS 5.1.1. The amount of built-in features has improved greatly, particularly Accessibility (see Chapter 3: Accessibility Options) which provides significant enhancements, particularly for users who have a visual difficulty.

Getting to know your iPad

The illustration below provides an overview of the main generic features of the New iPad and iPad 2.

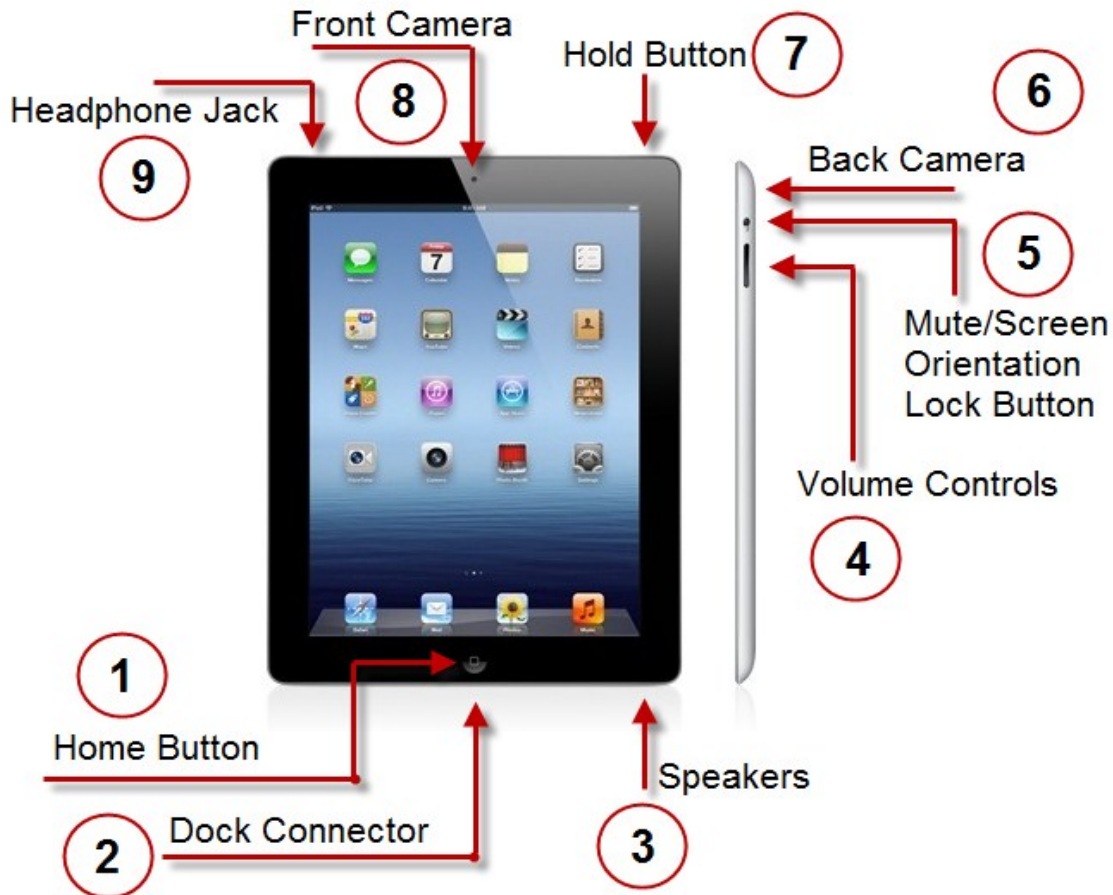


Figure 1: An anatomy of the iPad.

1. Home button. Press this button when you want to exit an App and return to the home screen. The Home Button is also used to close non-responsive Apps and to rearrange Apps.
2. Dock connector. This is where you plug in the USB cable to synchronise the iPad to and iTunes/computer. The Dock connector is also used for plugging-in the Camera Connection Kit (see Chapter 3: Accessibility Options) and other external compatible devices such as Mp3 players etc.
3. Built-in Speakers.
4. Volume Controls. Use this button to increase or lower the volume of the audio played through the speakers at the bottom of the iPad.
5. Volume Mute/Screen Orientation Lock Button.

6. Back Camera. This camera takes digital still photos and video at HD 1080 dpi resolution. The Back Camera is located in the top left corner on the back of the iPad.
7. Hold button. This button locks the iPad screen and puts the device to sleep. It is also one of the buttons to restart a frozen iPad.
8. Front Camera. This camera can record video at 720p HD resolution and works with FaceTime (face-to-face video calls).
9. Headphone Jack for plugging in headphones or speakers.

iPad Settings

If you haven't already done so, a good starting point is to familiarise yourself with Settings. Settings can be best explained as the 'Mission Control' of the iPad, the place where you can control, customise, expand, restrict, connect to Wi-Fi or external devices via Bluetooth and more. Settings also contains Accessibility where you can increase the magnification of the icons and text and even control the iPad by listening text-to-speech using VoiceOver.



Many of the Apps installed on the iPad can also be customised in Settings, particularly some of the AAC Apps which have built-in scanning options. Settings will be explored in more depth in the 20 hints and tips so it is recommended even at this early stage you tap the Settings icon and start exploring to maximise the potential the iPad offers.

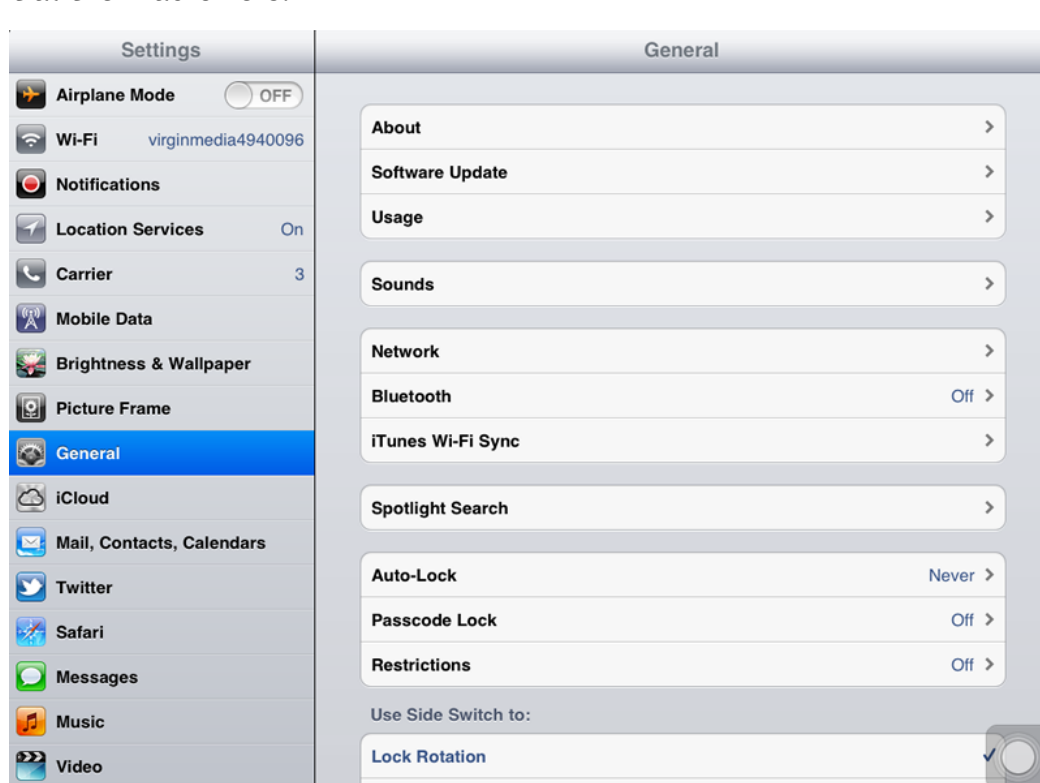


Figure 2: Settings is at the heart of controlling the iPad.

Protecting your iPad

Protecting your iPad from the start can not only save money but can protect you from the emotional stress of having your device scarred with scratches. A scratched screen can limit the experience and enjoyment of using your favourite Apps. Even more so if you have a New iPad with its Retina Display high definition screen.

There is a range of iPad accessories including protective cases, wheelchair mounts (see Chapter 4: iPad Accessories). Protective cases are widely available; some come equipped with Bluetooth keyboards, built-in stands and screen protection, some are available in luxury leather portfolio cases and others are more specialised, particularly for children with mobility difficulties and those with challenging behaviour who may not understand or appreciate the value, cost and fragility of an iPad.

If a protective case is outwith your budget then the least you can do to protect the screen is to consider a screen protector - a transparent overlay which covers the entire screen (often with holes providing access to the Home Button and front Camera).

A quick Internet search for 'iPad protective screen' or iPad case' will display an array of options. Typically prices can range from basic screen protectors (usually a thin, clear plastic overlay which fits on the screen) from about £3.00 and/or cases from about £14.00. A disadvantage of screen protectors is that they can be fiddly and difficult to fit. A poorly fitted screen protector can often leave a patchwork of air bubbles which are impossible to disperse despite constant smoothing. A credit card or soft plastic can help to flatten out bubbles - but please take care!

Anti-Glare

For many people the iPad's 'glossiness' and shine is a major attraction but for others it can be disadvantageous as the glare and/or reflection produced by a combination of refracted light on the glossy screen can be distracting and painful to the eyes.

While it is possible to purchase an iPad with a matt surface (a more expensive option and takes longer to order) a matt anti-glare cover is a good alternative.

So too is a frosted cover which not only minimises glare but can also help tone down the brightness of the iPad's backlit display.



Figure 3: Protective screen also available in Matt.



Figure 4: A frosted cover can help to tone down the iPad's backlit display.

While the colour rendition (less vibrant colours, not quite so deep blacks) of the iPad differs to an iPad without a matt anti-glare overlay it can make a big difference to those who find the reflective light difficult or impossible to view. Similar to protective screens a search on Google or Safari (the iPad's default web browser) for 'iPad matt screens' or 'iPad frosted screens' will provide fruitful results.

20 Top hints and tips for making the most of your iPad

1. Lock Rotation

Love it or hate it, the rotation feature on the iPad is here to stay. But what if you find the constant rotating of the screen frustrating?

One minute you're reading your favourite website and suddenly it spins out of control - from landscape to portrait, portrait to landscape, then back to portrait.

The good news is that you can switch the auto rotation off.

- Double click the Home button (the Circular button on your device). This takes you to the 'multi-tasking' feature (see 4: Renaming folders for more details).



Figure 5: For some users Rotation can be frustrating.

- Swipe left as far as you can go until you see the Lock Rotation icon (a square icon with a padlock) at the far left hand-side.
- Tap the button to lock rotation. Double tap the Home button to close the multi-tasking feature.



Figure 6: Lock Rotation - double click the Home button.

You can set this option to either Lock Rotation or Volume Mute depending on your preferred choice. To choose go to Settings, General and under 'Use Slide Switch to' select either Lock Rotation or Mute.

2. Rearranging Icons

If you want to rearrange the icons on your screen, tap and hold on any icon until it starts to shake or jiggle - jiggle mode. When in jiggle mode drag the icon to its new location. Ensure you do not press the 'x' on the icon as this will delete it. Press the Home button to exit jiggle mode.

3. Create Folders

You can create folders on the iPad in the same way as you would create a folder on your desktop or laptop computer. Putting Apps into folders helps to keep your screen organised and helps you to find Apps quickly without endless scrolling through pages.

Creating folders on the iPad is straightforward. In order to create a folder, follow the steps below:

- Tap and hold an App on the screen until it and the other Apps start shaking or jiggling - jiggle mode.
- Choose the Apps you want to put into a folder and then drag one App on top of the other. Repeat until all your chosen Apps are in the one folder.
- Press the Home button to finish the process.
- Follow the same steps to create more folders.
- To remove Apps from folders, tap and hold the folder until they start shaking or jiggling, then drag each App out of the folder onto the screen. Press the Home button to complete the process.

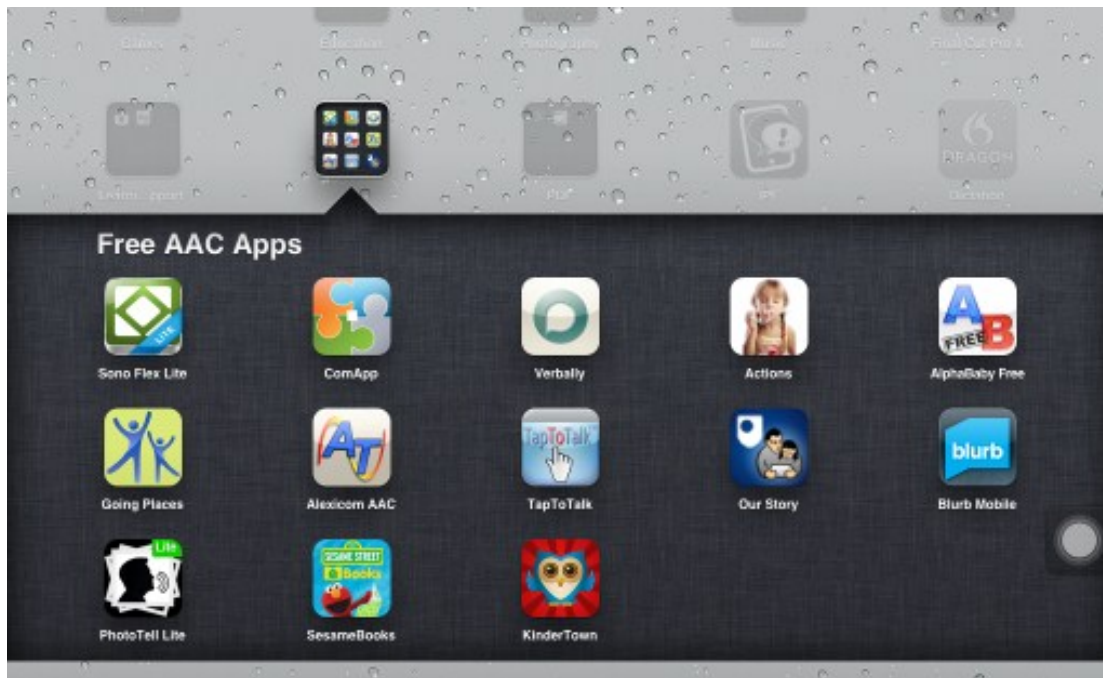


Figure 7: Folders help to organise your screen.

4. Renaming folders

If you want to rename a folder, tap and hold on the folder you want to rename until it starts to jiggle.

While the folder is jiggling tap the folder to open it. Click on the folder's title. The keyboard will appear - now enter the appropriate text to rename your folder.



Figure 8: Rename folders.

5. Keyboard Options

The keyboard features a range of options which allow you to move, split and dock the keyboard. Most of these options are found in Settings, General and Keyboard.

The Split keyboard may not be to everyone's taste but for some users it could provide a useful alternative, particularly if you want to use both hands to input text (as opposed to a hunt and peck style of typing), e.g. thumb typing.

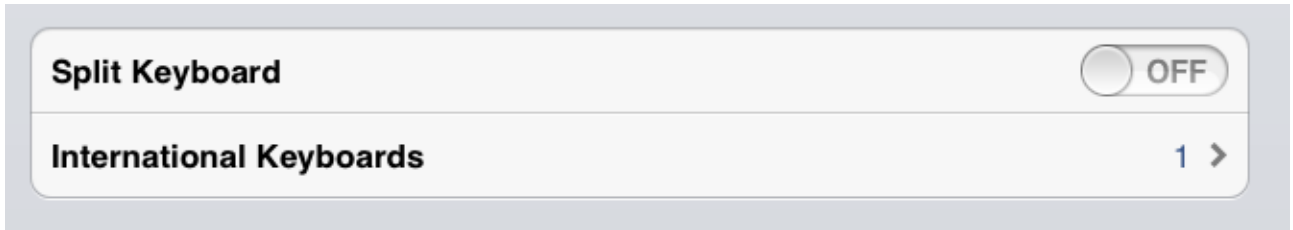


Figure 9: Split Keyboard can be accessed from Settings, General and Keyboard.

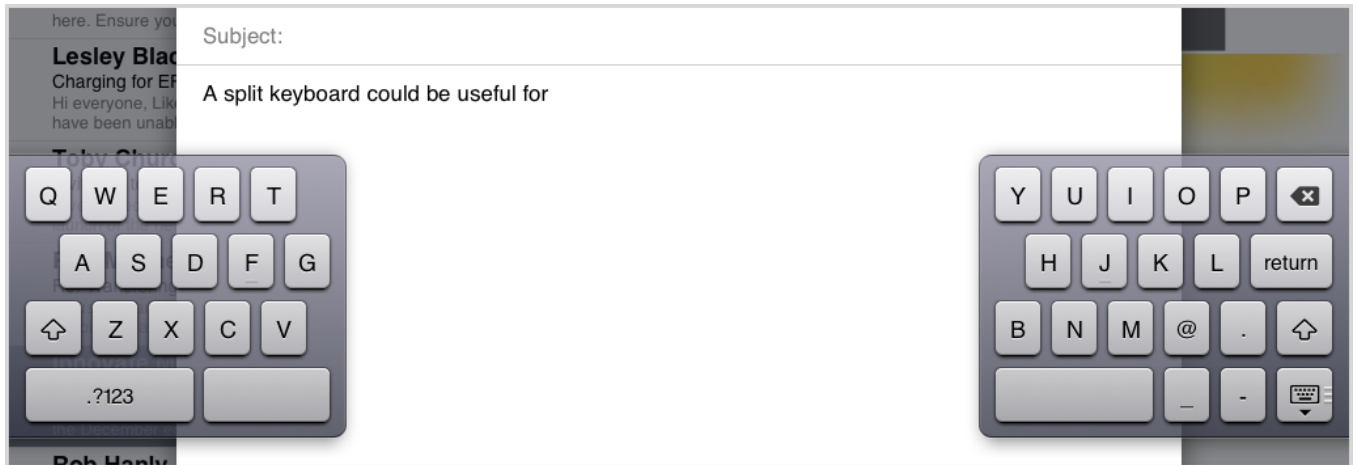


Figure 10: An example of the Split keyboard.

In iOS 5.0 and 5.1.1, there is a new marking on the keyboard show/hide key - 4 horizontal lines one above the other just to the right of the key.

When you tap and hold your finger on the horizontal lines an option for Dock or Split will appear, similar to the illustration on the right.

The Split option is another way of splitting the keyboard, or alternatively, returning the keyboard to a full single keyboard.

The Dock option allows you to position the keyboard next to a line of text making it easier to see what you're writing as you type, similar to the illustration below.



Figure 11: 4 horizontal lines on the keyboard.



Figure 12: The iPad's Dock option

To move the keyboard up and down, tap and hold the show/hide key and move the keyboard into your chosen position. To undock the keyboard, repeat the process and select 'Dock'.

6. Shortcuts

If you are familiar with Auto-Text in Microsoft Word then Shortcuts is very similar. Word's Auto-Text is like abbreviation expansion, you type the first two or three characters into your document and then you are prompted with the complete word or phrase. By pressing the Spacebar or Enter key you input the text with the minimum of fuss.

Shortcuts can therefore help to cut down keystrokes while at the same time allowing a user to enter large amount of text with the least amount of input. It can be particularly useful for someone with poor mobility difficulties. However, if you have collated a large number of Shortcuts a good memory is essential to remember each abbreviation that has been created. In the example below 'ab' is used to expand the sentence; 'This feature can help to cut down keystrokes by using abbreviation expansion'. First of all you need to create a bank of Shortcuts, or short abbreviations that you want to expand.

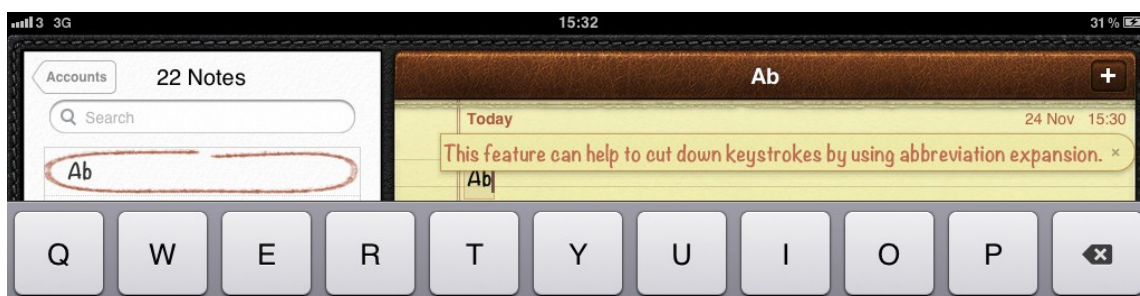


Figure 13: Shortcuts can help to cut down keystrokes and increase text input.

- To start go to 'Settings', 'General', and scroll down until you see 'Keyboard'.
- In the keyboard screen tap 'Add new Shortcut'.
- Type the phrase you want expanded.
- Type the shortcut.
- Tap 'Save'.

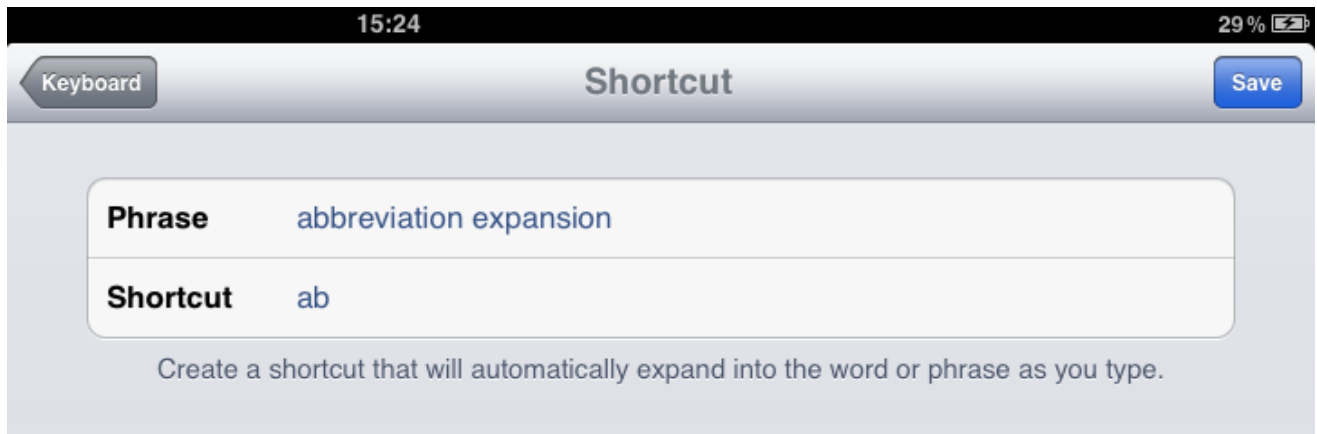


Figure 14: Create a bank of abbreviations in Shortcut.

Now try typing your new Shortcut in Notes, or email or any other text-based application which uses the iPad keyboard. Remember to tap the Spacebar on the keyboard to enter the abbreviation.

7. Multi-tasking Feature and Spotlight Search

The multi-tasking feature allows you to have one or more Apps open at the same time. Multi-tasking also allows you to keep individual Apps open without closing the App, then starting another sequentially.

You can easily switch from App to App seamlessly and speedily. You can use multi-tasking in landscape and portrait layout.

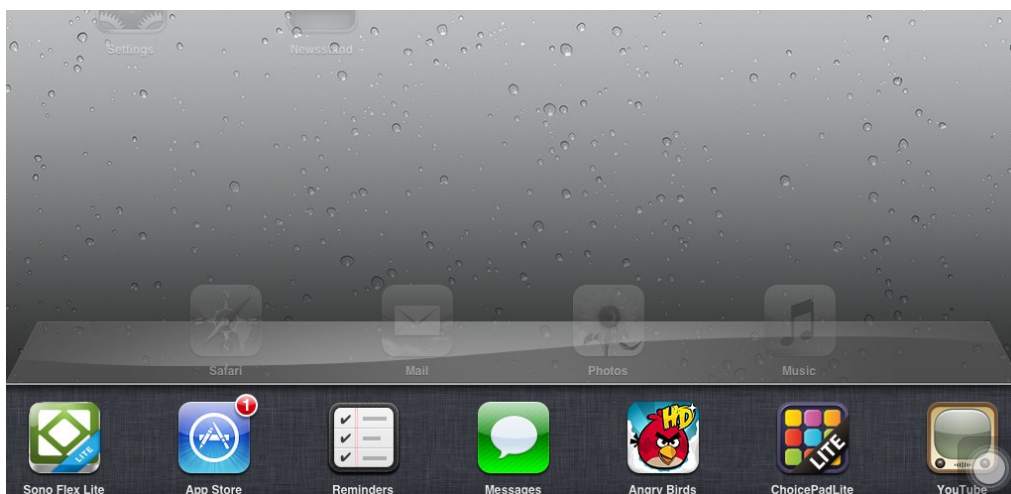


Figure 15: Multi-tasking for finding and opening multiple Apps.

- To start the multi-tasking feature, double click the Home button on your device.
- Double clicking the Home button pushes the screen upwards and fades the screen icons into the background.
- Simply swipe or flick the active icons (in the bottom row) to the right or to the left until you find your chosen App. Tap the App to start.
- To open another App without closing the App you've just started, double click the Home button and repeat the process.
- Double click the Home button to close the active icons and the multi-tasking feature. The screen will return to its normal view.

Spotlight Search

The Spotlight Search is an easy way to quickly find an App. If you're finding your screen is becoming cluttered with lots of Apps, and finding Apps is becoming increasingly difficult and time consuming, then Spotlight Search will make all the difference.

To find Spotlight Search simply swipe or flick the screen until you come to the first screen.

A quick way to get to Spotlight Search (particularly if you are on screen 4 or 5) is to press the Home button once. This takes you to the first screen of Apps, (Settings, Calendar etc.) - then just a simple flick to the right will show Spotlight Search.

Finally, type the name of the App. As you can see in the illustration above you only need to type the first letter (in this case 'S') and the App Sono Flex Lite appears immediately.

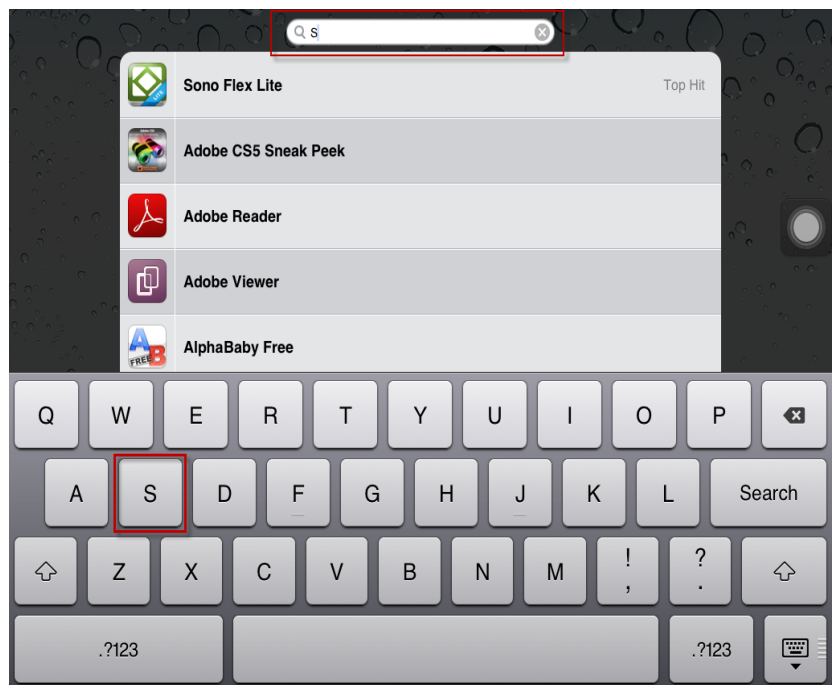


Figure 16: Flick to the first screen to find Spotlight Search.

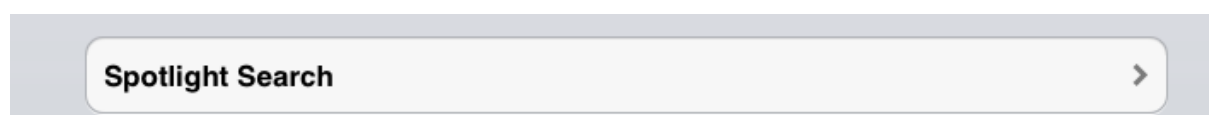


Figure 17: Go to Settings, General and Spotlight Search to define the search.

In Settings and General and Spotlight Search you can define what items you want Spotlight Search to find, e.g. Contacts, Applications, Music, Podcasts, Videos etc.

Just tap to select or deselect the item(s) you want then return to main screen - General and Settings.

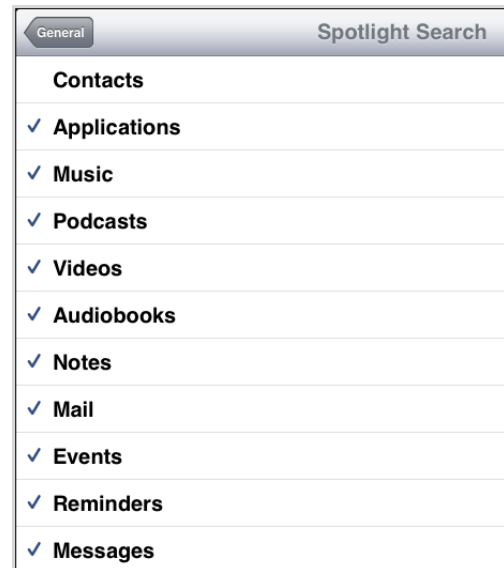


Figure 18: Define your Spotlight search.

8. Safari Reader

New to iOS 5 (and continued in iOS 5.1.1) is Reader feature in the iPad's Safari browser. Some websites have too much clutter making it difficult to read or identify the main information. Safari Reader lets you view web articles in an uncluttered linear environment and also offers font sizing options.

Not all websites offer the Reader facility but when Reader is available the 'Reader' icon appears in the URL/search pane. One example where you can view the Reader option is Wikipedia. Go to www.wikipedia.org and type a subject to see the Reader Option appear. To activate Reader touch or tap the Reader icon and a new page will appear. The Reader icon also changes colour to 'purple'. To close the Reader panel touch the purple Reader icon.

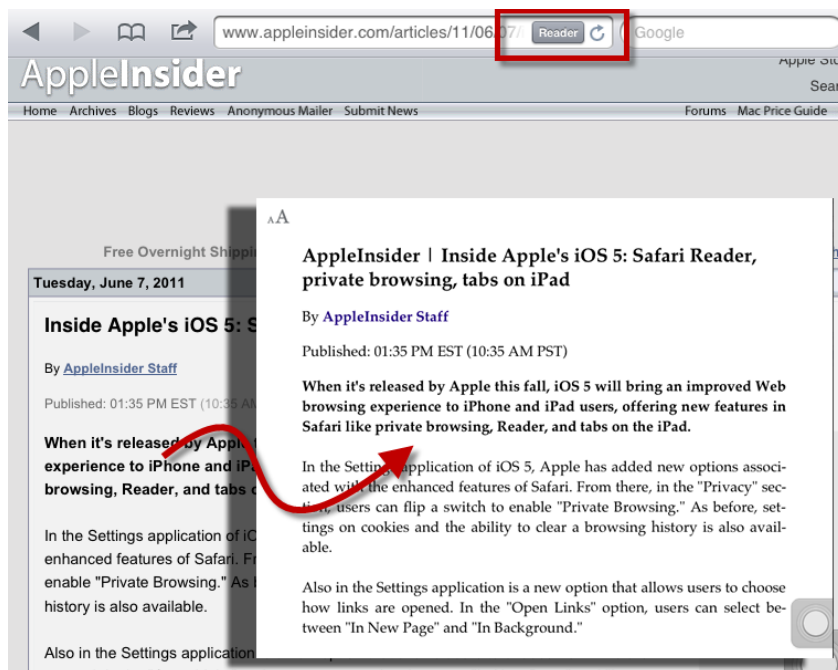


Figure 19: Reader icon in Safari

9. What does HD mean?

When browsing for an App on the App Store or in iTunes, it's more than likely you'll come across the letters HD next to some Apps. What does this mean? Native iPad Apps run at a higher screen resolution than other Apps due to the iPad's larger screen size.

The iPad can run Apps designed for the iPhone's relatively small screen, but to do so it either has to run them in a small window or scale them up (x1 or x2) to fit the iPad's screen. The New iPad features 'retina display'. At its most basic, retina display means smoother, more readable text. Assuming you don't have a problem with looking at a backlit screen for long periods, the New iPad HD provides all over increased clarity and features a 9.7-inch 2048×1536 (264 pixels per inch) display.

10. What is iOS 5.0/5.1.1

iOS (formerly known as iPhone OS) is Apple's mobile operating system. Originally developed for the iPhone, it has since been extended to support other Apple devices such as the iPod Touch and the iPad. iOS 5.0 is the latest upgrade (iOS 5.1.1 at the time of writing) which among other things, offers new features such as free storage space in the iCloud. You can read more about iOS on Wikipedia: <http://en.wikipedia.org/wiki/iOS> You can find out everything you need to know about iOS 5 and the iCloud on the following link: http://bit.ly/find_out_about_iOS5_iCloud

11. Volume and mute

The volume controls on the iPad are located on the top -right hand side of the iPad.

1. Volume control for increasing and decreasing sound volume.
2. Mute button to mute all sounds.
3. Main power on/off button.



Figure 20: Volume and mute controls.

12. Sleep and power off mode

There are two power modes for the iPad; sleep and off. To put the iPad into sleep mode (and conserve battery power) hold the Power on/off button (see Figure 20 '3') until the screen goes off. To turn the iPad off, hold the Power on/off button down until you see the red/white arrow 'slide to power off' option at the top the screen. Slide the red/white arrow to the right hand side to switch off the iPad. To turn on, hold down the Power on/off button.

13. Take a screen shot

To take a photo (screen shot) of your screen or an App or any part of the iPad - hold down the Home button and Power on/off buttons together at the same time until you see the screen momentarily turn white.

Let go of the buttons. If the volume is on you will also hear the 'snapshot' camera sound. Look in the 'Photos' album to see your screen shot.

14. Restrictions

Restrictions, also known as Parental Controls, allows you to prevent access to specific features and content on the iPad such as the web browser Safari, YouTube, as well as options to prevent a user from installing or deleting Apps. To set Restrictions follow the steps below:

- Tap Settings.
- Tap General.
- Tap Restrictions.

To Enable Restrictions, tap Enable Restrictions and enter a passcode. The passcode will be required to make changes to these settings or to disable restrictions.

15. Switch Access

So how do you set up switch access with an iPad? Current switch access devices tend to rely on a Bluetooth connection between the switch box and the iPad, e.g. the Therapy Box Bluetooth Switch Box.

To connect the Switch Box to the iPad it first of all needs to be 'paired' i.e. the iPad and the switch box need to 'talk' or 'communicate' with each other. Each Switch Box will have its own particular setup procedure but to activate the iPad's Bluetooth follow the steps below:

- Tap Settings.
- Tap General.
- Tap Bluetooth.
- Turn on Bluetooth - it will automatically search for Bluetooth devices in the vicinity.

This video tutorial provides a step-by-step guide:

http://bit.ly/connect_switch_ipad

The Komodo Open Lab project is developing a system (Tecla: a set of tools to facilitate access to electronic devices) to make the iPad's interface switch accessible which means that switch scanning will be available throughout the iPad, i.e., selecting and opening Apps etc. This is an exciting project and one worth keeping an eye on: <http://komodoopenlab.com>.

Switch2Scan and Switch4Apps

The Switch2Scan and Switch4Apps also provide switch and scanning access to the iPad: www.inclusive.co.uk/hardware/ipad (see Chapter 3: Accessibility Options) for more information on switch access).

16. Highlight and Speak paragraphs of text

You can highlight individual paragraphs of text by tapping the text four times in quick succession - this highlights the paragraph. If you have iOS 5 or later you can then press the Speak option to have the paragraph read back.

17. Save Images from the web

If you find an image or a photograph that you would like to keep when surfing the web then simply press and hold your finger on the photograph or image for a few seconds and a pop-up menu will appear. Simply tap on the 'Save Image' button - you can then save the image to your iPad's photo library.

18. Create web thumbnails

Although the Bookmark option in Safari can help to organise all your favourite websites you can also create web clippings or thumbnails of your favourite websites. Choose a website and then select the 'Add Bookmark' icon at the top of the page (to the left of the URL address box). When the drop-down menu appears select 'Add to Home Screen'.

This creates an icon or thumbnail of the website. You could also create a folder and drag or organise all your favourite web clippings into one folder.

19. Add full stops to sentences

To automatically add a full stop at the end of sentence and type the next letter as a capital, double tap the space bar.

20. Protect your iPad and data

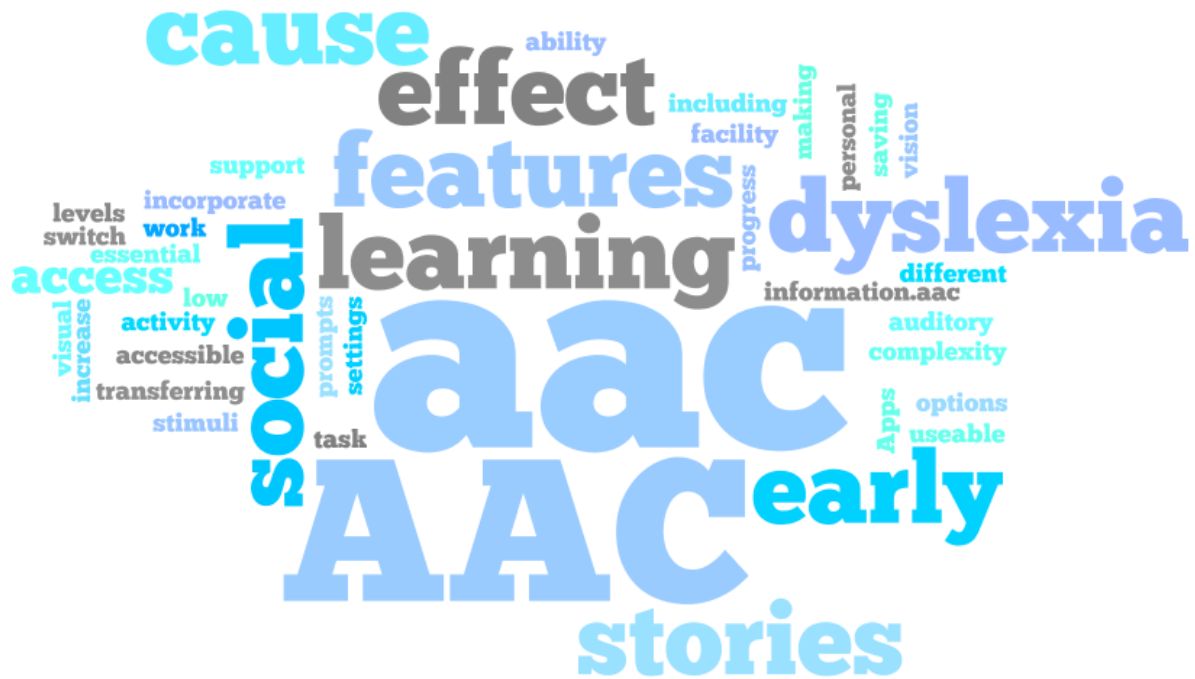
Always try to keep your iPad and data secure by using the passcode option - Settings, General and Passcode Lock and select Turn Passcode On.

You can create more complex Passcodes by typing in your current passcode and turning off Simple Passcode. This allows you to create a new code that contains both numbers and letters.

More iPad Tips, Tricks, and Tutorials

Only a few of the iPad's hints and tricks are covered here, there are many, many more! To see the complete list of tips, tricks and tutorials the 'How to Geek' website is an excellent resource: http://bit.ly/complete_list_of_iPad_hintsandtips

Chapter 2: Apps to support teaching and learning



Introduction

The success and usefulness of the iPad is largely due to the extent, range and comparative low cost of Apps available for download. Current estimates at the time of writing are of well over 200,000 Apps specifically for iPad, a figure that is growing larger day by day.

There are Apps for just about everything you might possibly want to know, do, see, hear, say or share. But, with so many to choose from, how do you find the best App for you or your learners' needs?

The purpose of this chapter is to provide you with guidance on searching and identifying Apps, and making your selection, including

suggestions about features to look out for.

Many people will begin their search for Apps within the iTunes App store (either on their iPad or on their 'main' computer) amongst the many Apps for supporting learning and for general use by children, teenagers and adults.

However, for individuals with additional support needs and/or communication needs, you may need to select from Apps written with these special needs in mind. These should incorporate features and settings that make them more accessible and more usable.

For example: visual and auditory stimuli and prompts; special access options, including, potentially, switch access; support for low vision; different levels and the ability to increase task complexity for progress through an activity; and a facility for saving and transferring any personal work or information.

Start your search with lists of Apps, whether within the categories of the iTunes App Store itself or by reading lists of Apps compiled by independent individuals for websites or blogs (see Chapter 5: iPad Resources). These lists are organised under headings, to direct you to the types of Apps best fitting your requirements. This can make finding the right App easier and quicker (although under the heading 'Education', in the iTunes App Store - it can still mean trawling through thousands of possible Apps). Bear in mind also that any third party website or blog list will be up-to-date for a short time only, given that developments are happening so quickly in this field.

Making mistakes when selecting Apps can be costly, not just from a financial point of view, but also in terms of time wasted and frustration experienced if they turn out to be of limited use to learners. Chopping and changing to new Apps all the time is not a good learning environment for learners. Here are some suggestions for assisting you in refining your criteria and making good choices.

General features to look for in any App

The following features relate to any App you may wish to use with learners who need support for communication, language and learning.

US version

Many Apps are written and developed in the US and reflect that context. However, depending on the type of App you are looking for, you may wish to look for one which is more culturally appropriate to your own country, with appropriate vocabulary and topics, and based on an appropriate school curriculum. It is worth checking the App description carefully for details on this. For example, US educational Apps will use upper case letters and letter names instead of letter sounds.

Access options

Most Apps are operated by direct touch control with a finger or specialised pointer requiring accurate fine motor control. Certain Apps are designed to accommodate those with reduced physical ability and allow for minor adjustments to be made to the screen response, such as touch delay in the case of tremor. Such Apps may incorporate larger target cells or the ability to customise the size of a cell or button. Some Apps let you 'hide' the editing controls (from prying little fingers).

If further access support is required, then switch accessible Apps may be the best option. These allow control with any chosen switch and with onscreen scanning, in which cells/buttons are highlighted, one-by-one by a moving cursor, then selected with a switch press. What you're looking for, above all, is flexibility and a range of options (see Chapter 3: Accessibility Options).

Editable content

An App will be more motivating and useful to the learner if it has content that is personal to him/her, or takes account of personal preferences. It is worth checking whether Apps can be edited and personalised to include relevant and familiar photographs, pictures, symbols, vocabularies and topics.

Tutorial materials, guides and support

Information to assist you in setting up, configuring and using an App, apart from very basic Apps, is essential. Some Apps have a basic help option within them; others will direct you to the developer's website, where more comprehensive help and support may be available.

Other Apps may also have video guides on YouTube or hints and tips written by other users within web forums and blogs (see Chapter 5: iPad Resources).

Free or Lite versions versus paid-for Apps

There are 6 types of Apps:

- Free App
- Paid App
- Lite App
- Free ad-supported App
- Freemium App
- Subscription App

(But the iTunes App store only really uses the terms Free, Lite and Paid Apps)

The paid App is an App you buy costing anything from £0.69p upwards. Free Apps are not always as free as they seem to be, (though some are). The Lite App is usually free or very cheap and typically provides the first few levels or screens of the paid App, to give you a 'taster' and get you started with it, while you decide whether to go on to purchase the full paid App (the opportunity to upgrade to the full version is generally offered as an 'in-App purchase', that is, you do not need to go back to the App store to download another App). Freemium Apps are similar; you will get the basic App free but will be asked, in-app, if you want to purchase some additional items (e.g. extra characters or activities). A Subscription App is similar - a recurring payment is required, for example, as a magazine subscription.

A free ad-supported App is typically the full App free of cost, but will contain banner advertisements often including video. Be aware that touching the banner ads will redirect the user away from the App and into the ad site, which, apart from being annoying, will not be regulated for age appropriate material.

There is an option within the iTunes App store to select the display of paid-for Apps and alternatively to display free Apps, the default is to display those that are paid for. Clearly most people love a free or cheap App, but unfortunately free does not always equate with good. (Although expensive does not necessarily equate with good, either!) Downloading a free or cheaper version, if this is an option, does at least allow you to try it out before parting with too much money.

Customer ratings and reviews

Many Apps have been given customer ratings and reviews, with personal feedback from those who have already used them. These are well worth reading, to inform you in your search and can be found in the App Store and/or in websites and blogs.

App searching

Searching for Apps in the iTunes App store can be done by App name, or by choosing a category and/or heading and browsing through a list. Within the Education category, for example, there are headings for a range of curriculum areas. Another category is 'App Store Essentials' which displays a further sub-set of Apps for Kids with a range of early learning and fun activities. Other relevant Apps may be found in Games, or Medical categories.

An alternative to using the App store directly for searching is to carry out a Google search. If you want to find the best puzzle games or example, search on Google for the "best iPad puzzle game", or insert any other keywords such as best iPad Apps for toddlers or signing or AAC or spelling or SEN.

This may well yield better search results than a time consuming browse and will often provide links to websites and blogs offering a helpful review of the Apps listed.

Another very useful approach is to refer to an App list. There are a growing number of these, which are often compiled by experts in relevant fields. Some list examples that are particularly relevant to Additional Support Needs and Augmentative and Alternative Communication (AAC), are described in Chapter 4 of this book, titled iPad Resources, in the section: Finding Apps to support learning and teaching.

There are, increasingly, Apps that help you to find Apps such as Kindertown, or try Quixey; a dedicated search engine designed specifically for finding Apps: www.quixey.com.



Figure 21: Quixey is a search engine for Apps.

Apps by Disability?

What you *won't* find in iTunes App Store is Apps categorised by specific disability, though you may find third party lists that claim to do this. These may lead you to some useful or appealing Apps, but only as much as any other list might; in reality, there is no such thing as 'Apps for Autism', say, or 'Apps for Learning Difficulties'. (That's a bit like saying 'clothes for autistic children' - really? - What size? What colour? What style? What make? What weight / texture? and so on.)

In fact, there are Apps that focus on particular topics, skills or activities such as visual effects, drawing, number, letters, photos, communication etc. some of which may be found to engage and motivate some individual users who have autism. Probably the key feature is that they are immediate and interactive.

Specific features to look for in an App

The following description of specific features is designed to guide you in your selection of Apps and has been organised into: Apps for Communication; Apps for Learning and Additional Support Needs (ASN); Apps to support Literacy Difficulties; Apps to support Visual Difficulties. This is not a list of *all* the Apps in each group, it just discusses a few examples.



Apps for communication

The purpose of these Apps is to provide learners with support for their communication needs by using photographs, pictures, symbols, text and/or voice output to help them to share information and communicate with others. They have been sorted here into categories (although some Apps might fall into more than one category, depending on how they are used) with the most important features highlighted and a few examples within each heading is provided. Some important general features of communication Apps to look out for are:

- Degree of personalisation - can the content of the App be edited to include content and enable communication that is relevant for the user? Some Apps, especially the no cost or low cost Apps, do not allow the content to be changed.
- Speech output - is there an option to record speech or if it's synthesised speech, what are the voice options, e.g.: male, female, child? and what is the voice quality? Does the country of origin/accents match that of the user? Do you have to pay to buy voices? Can you switch voices easily?
- Access methods - is this touch only or are there switch access options? Are there different switch settings including step and automatic scanning, and a scanning auditory prompting option?
- Usability - how intuitive and simple is the App to edit and use? As these Apps will often be used by young and inquisitive children, can key functions such as edit and delete be hidden or locked to prevent accidental loss of buttons and pages?

- Saving and/or sharing - as communication is a two-way process, what options are there for saving and sharing messages produced (as well as speech output), e.g. emailing, publishing, storing/sharing via web or cloud?

1. Simple Communication

Simple communication Apps are designed to support and encourage communication at a basic level. Many have been designed specifically for young children and/or children with autism (but will also be relevant to other users). Some were designed by parents for their own children.

These Apps vary in price and in how simple they are to set up, edit and use. Some are geared specifically to the highly structured PECS style of communication.

Examples in this category include:

Grace-Picture Exchange for Non Verbal People

Grace-Picture Exchange for Non-Verbal People is a PECS structure in which learners select pictures to form a structured sentence. There is no speech output.

Look2Learn

Look2 Learn is similar to the above, but with speech output.

iConverse

iConverse is a basic picture/photo communication system with some pre-stored pictures and recorded messages for basic needs and wants and the facility to add your own photos and to record your own messages.

Tapspeak Button Plus

Tapspeak Button Plus turns the iPad into a large coloured button. It is customisable with pictures and includes a recorded single message output, just like a BIGmack, only you can store dozens of different messages. Tapspeak Button Plus is useful for teaching cause effect relationships, for expressing basic needs and wants, and for participating in group activities.

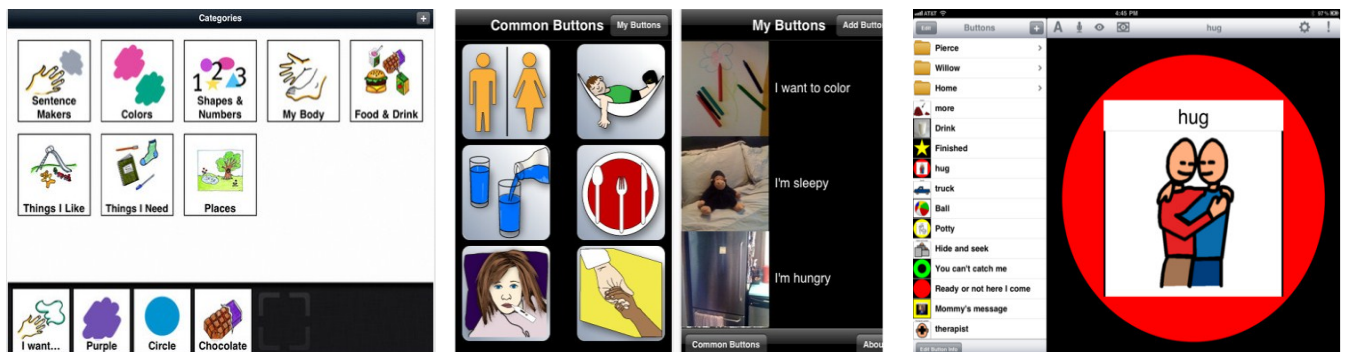


Figure 22: Left to right: Grace Picture Exchange, iConverse and TapSpeak Button Plus.

2. Symbol based AAC Apps

The following Apps are full-scale and highly featured interactive communication aid-type Apps, with a symbol interface and speech output. They offer multiple linked pages of symbols, with the ability to edit and save vocabulary layouts, and some come with starter vocabularies aimed at different levels of users. Symbol based Apps are dearer than most other Apps because they include a built-in library of pictures/symbols (or they offer in-App purchases of symbol sets, as an extra). This library is usually a recognised and copyrighted communication symbol set such as SymbolStix, Widgit Symbols or Makaton Symbols that will have been licensed with the developer.

As there are more steps involved in setting up and personalising user vocabularies and access settings in complex communication aid Apps, it is particularly important to have access to good tutorial materials including videos, downloadable guides, online support and discussion forums.

Some AAC Apps allow only one vocabulary set to be used in an iPad at any one time, whereas others provide the option to swap between available sets. This is an important feature to consider if you are assessing and managing a number of different learners at the same time, with one device.

Some also offer the ability to share and download vocabularies from online or cloud storage, requiring a registration process and sometimes a paid-for subscription. Some have the facility to set up and save vocabularies on a PC, which may enable easier and safe management of vocabulary sets. Some are universal and will run across the range of iPod touch, iPhone and iPad, whereas others need separate purchases for each type. You need to think through what you require.

Examples in this category include:

Proloquo2Go Version 2.00

This highly featured and well-supported communication App containing more than 14,000 SymbolStix symbols and, in its latest version, includes multi-user support. It comes with a choice of two pre-stored vocabularies; Basic communication (9-36 buttons per page, mainly single word / message communication) and Core Word (9-64 buttons, 2-4 word sentence building level) that you build upon to personalise.

It has US, UK, Australian and Indian English voices and also includes onscreen keyboard with text to speech and good word prediction. There is no switch access.

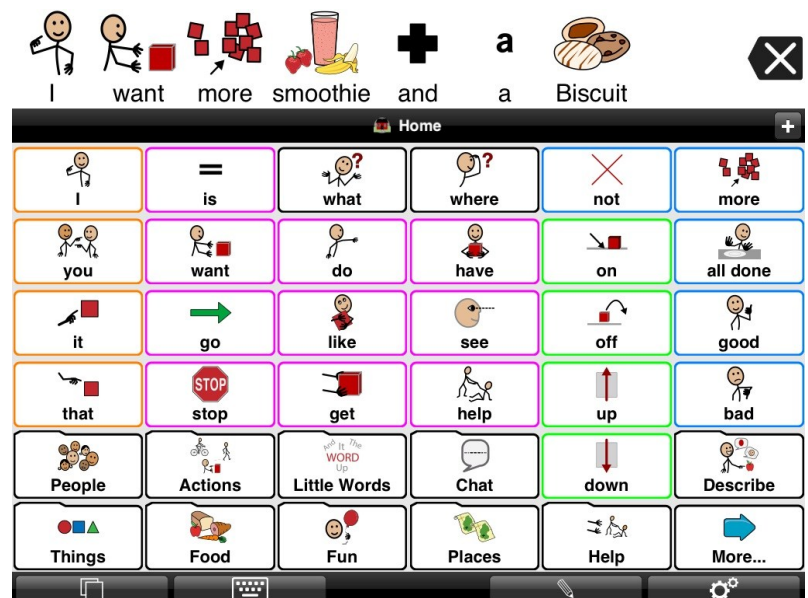


Figure 23: Proloquo2Go Version 2.00

TouchChat HD - AAC (Lite version available)

This is a sophisticated communication App using SymbolStix symbols. There are six starter vocabulary sets built-in that you can duplicate and personalise for users. There are more available to buy, including Word Power. There are US and UK voices, or you can record your voice. You can share your message to email as well as Twitter, Facebook and Tumblr. It has a simple button and page editor. There are separate versions for iPad and iPod touch, cloud storage and share facility and a PC editor, which all incur extra costs. There is no switch access.

Grid Player

Grid Player comes with two built-in symbol vocabularies, Symbol Talker A and B (and a text vocabulary, Text Talker). Although this App is free, to set up a new user and to edit grids, or to download more grids from the Online Grids resource, the communication aid software The Grid 2, must be purchased and installed on your PC. From that software, grid sets can be shared with any number of mobile devices. SymbolStix and Widgit symbols are included, currently no other symbols are possible. There are Acapela UK male and female voices but no switch access.

Go Talk Now (Free version available)

Go Talk Now features a built-in Imagine image library with Widgit and/or SymbolStix symbols as an extra optional purchase and a direct link for downloading images from the Internet. It has recorded speech and text-to-speech output. Different styles of communication pages are possible including visual scenes. Buttons can speak, jump pages, as well as play music and video. It is really simple and easy to use, lets you hide the editing buttons from the user, and is one of the very few communication Apps with switch access and auditory scanning. Go Talk Now can also save and backup vocabularies to DropBox.



Figure 24: Go Talk Now with built-in Imagine image library.

Sono Flex (Lite version available)

Sono Flex is a communication App containing SymbolStix and a large editable pre-stored vocabulary. It is less complex in content than other similar Apps, as the focus is on face-to-face communication without multi-media and sharing options. It is well designed and logical (core vocabulary is based on the Fitzgerald Key layout), fast for building sentences, and has innovative context-linked vocabulary.

Contexts/categories can be added (and new or existing categories can be hidden to suit the user). It includes a history of previously used words/sentences. The page layout itself is fixed (5 x 7 cells), and although no vertical scroll is needed, a sideways swipe reveals additional cells within a category. There are five American voices to choose from and no switch access.

3. Text based AAC

This category covers a range of Apps with keyboard input and text to speech output. They are for use by individuals with functional literacy skills. Some are very basic and make use of the iPad's inbuilt keyboard, offering no stored words or phrases. It includes a few other settings such as voice and access options. Some are much more comprehensive, having been designed specifically for AAC use, with many more options such as alternative keyboards layouts, word prediction, and touch and switch access options.

The fully featured Apps here have numerous keyboard layouts - QWERTY, ABC, optimised scanning layout and in some cases the layout is fully customisable. They have word and next word prediction, and have large prediction dictionaries offering the most accurate predictions and the ability to learn new frequently used words. They also have a word and phrase store, and a list of recently used phrases.

Examples in this category include:

Predictable

The Rolls Royce option - this has an App specific keyboard with different layout options, a straight forward word and phrase store, an excellent word prediction engine and an editable dictionary. An important feature, especially for adults with degenerative conditions, is the switch scanning options. Predictable includes US, Australian and UK voices.

Assistive Chat

Assistive Chat is a (relatively) cheap and cheerful option. It has a small fiddly keyboard, with average prediction and you can store favourite phrases for re-use. Only US voices are available.

Talk Assist

The free option features a keyboard and speech output. Talk Assist stores recently used phrases (editable) for re-use. It does not include prediction.

Grid Player

Grid Player can be text or symbol based. All page layouts can be fully customised allowing for any design of keyboard. It offers good prediction.

Mintyvox AAC

Mintyvox AAC is more for chat than full scale communication. It includes a small core vocabulary, with the iPad keyboard used to add novel messages that are then stored as 'history' and available for re-use. It includes built-in speech interjections, to keep conversations flowing.

4. Photo Stories

Many children are not ready to use a formal communication system or may not understand or respond to symbols. They need photos that are highly concrete and linked to their own immediate and familiar contexts. This not only helps children to make sense of their world and understand what is going to happen, but can be used expressively as well, using Apps to sort, label and add language to the photos.

‘Photo Story Apps’ is a general way of describing Apps that let you quickly create a talking story book, with pictures or photos linked together in a series of pages, either just a few pages or longer, each picture accompanied by some text and recorded speech /narration.

The end result can be a talking photo album, a talking Communication Passport, a talking Social Story, or a talking visual schedule etc. These can be useful for teaching social skills and storytelling, and allow learners to recall events, and share their news and interests with others. They can also be used for writing and retelling social stories. The Apps in this category vary in their usability, their overall ‘look’, whether they use recorded or synthesised speech, and in the amount of text that can be inserted on each page. Some also allow a video to be inserted into the album as well as photos or pictures, and sound files. One of the key issues is if / how your story can be shared once it’s made e.g. passing news between home and school, directly or via email or social networking sites.

Examples in this category include:

Stories2Learn

Stories2Learn comes pre-loaded with six autism-friendly social narratives to teach social skills in reciprocal play, non-verbal communication, playground and school rules and turn taking (with two different ways to view the story depending on the individuals’ developmental level).

This is one of the simplest of all the Apps to master. It is very easy for school and families to use for personalised news, stories, and quickly breaking down events into steps.

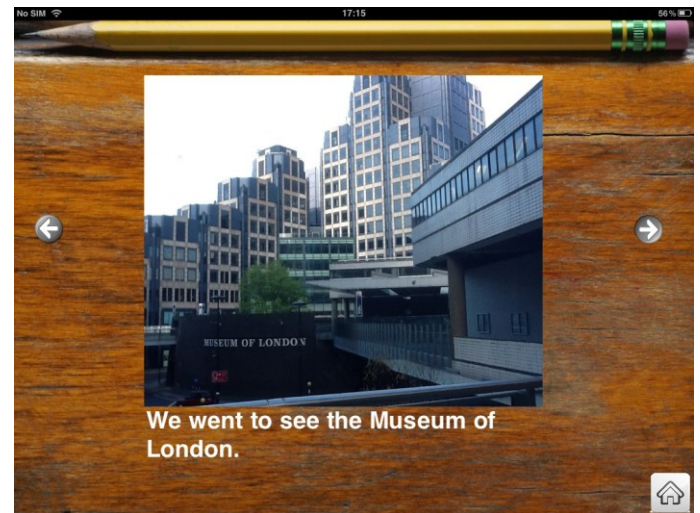


Figure 25: Stories2Learn.

Book Creator

Book Creator is as cheap as chips but a Rolls Royce option. It is simple and logical to use, supports video as well as pictures, sound files and recorded speech. You can create audio ‘hotspots’ or add a sound track if you want to get fancy. Book Creator can also import text. There are lots of excellent sharing options including Dropbox, email, send to iTunes, or publish to iBooks (or others, e.g. Stanza, Kobo etc.). There is also an option to publish to PDF. Online Help notes are also available.

Pictello

Each page in a Pictello story contains a picture/photo and up to five lines of text. Pictello is the only photostory App to offer both recorded and synthetic voices including British English child voices. It has a comprehensive list of settings and various sharing options, which makes it a bit complicated for rapid day-to-day use.

All about Me Storybook

This App provides a structured approach (with twelve 'starter' chapters built-in, which can be hidden if unwanted) for users to organise personal photos, and add text, and record audio. Stories can be locked to protect content from being accidentally deleted. The same authors also offer a series of related Apps, to teach and support other personalised information e.g. family photo album, class-friends album, and also i-See-quences (e.g. Going to a Restaurant, Going to the Playground).

5. Signing Apps

These Apps are for helping individuals to learn and use sign language for communication. They are useful for individuals who are deaf or hearing impaired, and additionally for those with language and communication support needs rather than deafness, for whom signing can be an effective communication tool. Signing Apps may also be useful for communication partners to learn signing.

There are quite a few Apps for learning the finger-spelling alphabet that are generally low cost, as well as those for British Sign Language (BSL) and Makaton signs. A key issue to look out for is whether a signing App uses BSL or American Sign Language (ASL), as many are based on ASL (though they don't always make that clear in the blurb). Some of these Apps have real video to demonstrate the signs and some use 'avatars' (virtual people). Some have text subtitles and/or voice over, others are sign only (i.e. silent and without subtitles).

Examples in this category are:

Baby Sign and Learn

Baby Sign and Learn is an App to help you teach your baby to communicate by teaching basic sign language (based on BSL). Animated baby characters model and say each sign and the App includes flashcards and an interactive quiz.

BSL Level 1 Steps 1/2/3

This is a series of instructional Apps for teaching, learning and practising BSL covering the level 1 signing curriculum. It has real video of signs with subtitles, but no voice over.

My ChoicePad

My ChoicePad (Lite version available): this unusual App which is a cross between a signing App and a communication aid App, offers a combination of 450 core vocabulary Makaton symbols and Makaton signs.

My ChoicePad has video clips of signing accompanying the symbols, as well as line drawings of how to make each sign, and speech output.

You can also use your own photos and voice recordings.

It is useful for communication partners that are non-signing, who need to quickly learn a specific sign for use, as well as for learners who use signs and symbols to make choices and communicate.



Apps for Learning and ASN

Apps can facilitate and support learning for a wide range of children, teenagers and adults with additional support needs. Some important general features of Apps for Learning and ASN to look out for are:

- Age appropriateness - check that Apps are appropriate to the age as well as the developmental level of the learner using it.
- Progression - does the App have different levels and allow for progression through them?
- Recording - can progression through the App be recorded and printed out?
- Independent use - does the App have controls, such as enlarged or spoken text that allow the learner to make selections, to save or print work and to quit the App independently?

1. Sensory, Cause and Effect, and Early Years Fun

These Apps aim to prompt and motivate the user to look, listen and pay attention. The simplest are just experiential or 'sensory' level, while others encourage the user to explore, respond and interact with the iPad. They are useful for encouraging persistent gaze, eye tracking, and for developing understanding of cause-effect relationships. They can help the child to develop accurately targeted touch and to explore and develop dragging. Apps typically provide multisensory stimuli and feedback - spoken language, sounds, music, and bright, contrastive and animated visual displays.

There are hundreds if not thousands of these, as they are popular with parents for all young children, not just children with ASN. Many are free or very cheap. There are many 'Apps lists' that will provide suggestions, or just do a Google search for 'apps + kids'. However you need to remember that many of these were designed to keep children entertained, rather than to be educational as such. Conversely, some of them although aimed at young children are actually assuming quite high cognitive and hand-eye skills. So you need to evaluate each with a critical eye, with your own learners' developmental level in mind.

Apps with settings options that allow adjustments to the way content is presented can be useful, so that options can be turned on and off to suit the learner and to enable progression through different stages of learning. On the other hand, too many settings can make an App too complicated for a child to use independently, or can make it too easy to set up wrongly for particular learners. For example, a potentially lovely App like 'Art of Glow' can be fun, absorbing and potentially instructive but if set wrongly it can counter-act rather than reinforce cause and effect learning (because the effects produced may stay on the screen when the child removes their finger).

Some examples in this category include:

Fluidity

Fluidity is a fascinating swirls of colourful, sparkly fluids. The user can just watch, or the child's touch can 'stir' and move the fluid around.



Figure 26: Fluidity - swirls of colour.

Hidden Grid

Hidden Grid is an introductory activity for those working at a cause and effect level and designed to encourage exploration of the screen and to teach basic touch/tap and drag skills. Drag your finger around the screen to reveal coloured shapes and patterns, with melodic sound effects.

LoveFireworks

Touch the screen to create beautiful firework displays with 3D graphs and real sounds.

Virtuoso

Play a piano keyboard. There are lots of piano and xylophone Apps, with interesting variations, e.g. Piano Free, Kid's Xylophone. Try Burping Farting Piano, Cat Piano or Dog Piano for popular sound effects!

Fish Fingers

Touch the pond and fish swim to your finger. Tap to feed them and they grow bigger. Again, there are lots of fish Apps, try Pocket Pond, Koi Pond (Lite).

Peeping Musicians

Peeping Musicians is designed to encourage early visual skills and basic touch targeting. The activity involves watching for the musician as he or she 'peeps' from the top or side of the screen. It involves touch as they appear to make them move centre stage and play a piece of music.

Hatch! Plus

In Hatch! Plus an egg appears on screen, the child has to tap and tap, it cracks and cracks (5 steps) and then hatches and a different 'special friend' emerges each time.

Nighty Night

Nighty Night is a beautifully illustrated and narrated interactive story. Children can touch the animals to hear the sounds they make and see what they do.

Touch the light switch to turn off the lights. This App introduces the use of an arrow, to prompt touching of a hot spot or for a page turn.



Figure 27: Nighty Night illustrated interactive story.

2. Speech and Language

Speech and language Apps are for facilitating speech and language development in children and range from those that are mainly just a bit of fun to those that focus on speech sound practice games or on the acquisition / development of language. The built-in microphone on the iPad permits new types of interactive games, often aimed at younger children, although potentially enjoyed by all, encouraging practice of speech sounds, words and phrases. Other Apps target development of skills in vocabulary building, grammar, following directions, asking questions and turn-taking.

Speech and language Apps do not replace speech and language therapy, they are tools that can enhance therapy and make repetitive practice tasks more interesting. One therapist known as ‘GeekSLP.com’ has written blogs on how to use even Angry Birds and Cut the Rope to promote language skills! See www.geekslp.com/2012/03/ for more information.

Some examples in this category include:

Sound Touch (Lite version available)

This is a listening and vocabulary building exploration activity App for very young children containing hundreds of photographs of animals, vehicles, musical instruments and household items with spoken word and sound output. This provides fun play that is also highly educational.

Captain Cal S

Captain Cal S is an engaging story that focuses on the ‘secret sound’ (s) and provides practice games to practice (video hint shows correct articulation).

Voice Morph Pro

Say something into the iPad and then choose from 22 morph selections, to make it sound quite different. This App may encourage reluctant speakers to talk, through having fun.

Articulation Scenes

Articulation Scenes is part of the valuable Smarty Ears series designed by speech and language therapists. This is an elaborate App that embeds phonology work and articulation practice (which many children get fed up with!) into a creative movie theme.

Articulation Station (Lite and Pro versions)

This App provides help for teaching and practice of selected sounds at word, sentence and story level.

SentenceBuilder for iPad

This App is designed to help children learn how to experiment with and build grammatically correct sentences, with 100 stimulus pictures to build sentences around. It contains statistics for recording progress.

Splingo's Language Universe

Splingo's Language Universe is designed to develop listening and comprehension skills. This motivating game-based App is carefully structured to ensure balanced linguistic input matched to developmental language levels.

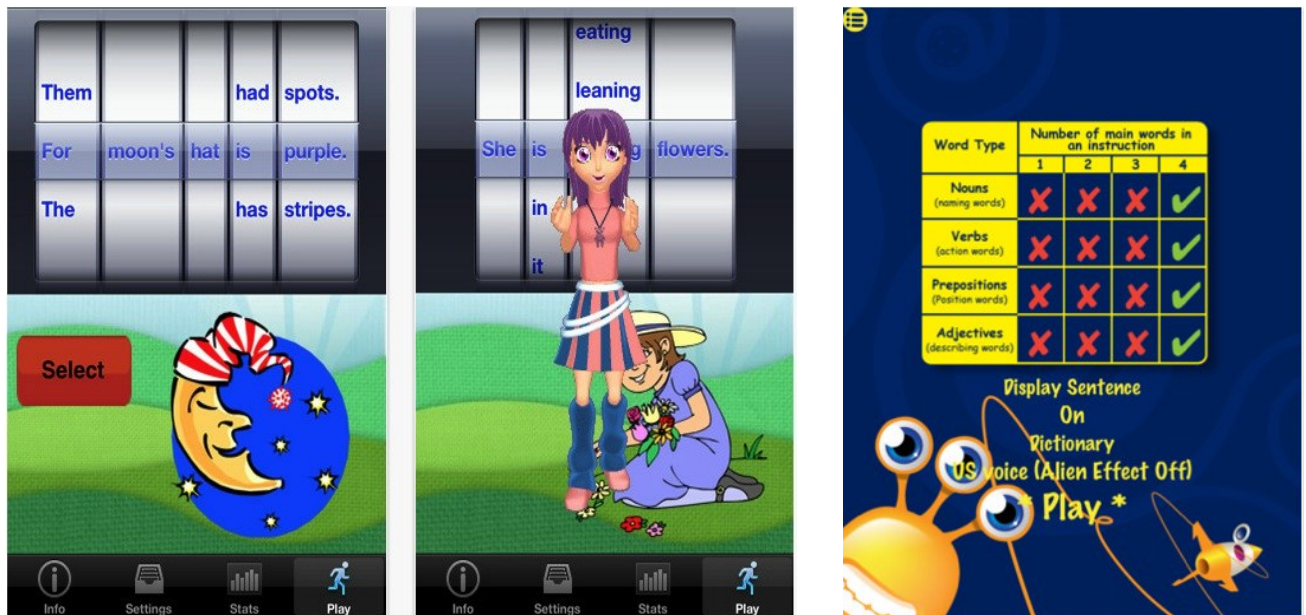


Figure 28: From left to right – Sentence Builder and Splingo's Language Universe

3. Early Learning and Emergent Literacy

The iTunes App Store has a large selection of Apps to support early learning and emergent literacy, providing endless games and activities to support basic cognitive skills and concept development such as visual perception, matching, memory, sequencing, listening, following instructions, colour, shape, size etc. (and in the process practising accurate touching and dragging).

- Match it Up (1, 2, & 3): drag to match the toys/missing half/ animal's food.
- Giraffe's Matching Zoo: match the animals in a 'pelmanism' game

Beware of Apps with over-stylised or cartoony style graphics that might be too 'busy' or sophisticated for early learners especially those with visual processing difficulties or poor language and inferencing skills. Beware also of over-animated multimedia offerings. There can be a thin line between Apps that are motivating and Apps that are over stimulating / distracting.

Apps from the company Inclusive Technology tend to be switch accessible, though most others are not.

Many Apps support phonics learning and bring letter and sound correspondences to life with colourful visual imagery and audio.

- Phonics Genius teaches word recognition through phonic awareness using flash cards and letter/word sequencing supported with audio.
- ABC Phonics Word Family Tree is a colourful fun way of learning phonics spelling, beginning sounds, word family phonics with short vowel sounds and is supported with animated matching picture and word games.
- Pocket Phonics (Lite version available): based on Jolly Phonics synthetic phonics approach. The App teaches and practises letter sounds, handwriting, and first words in a simple, clear and satisfying manner.

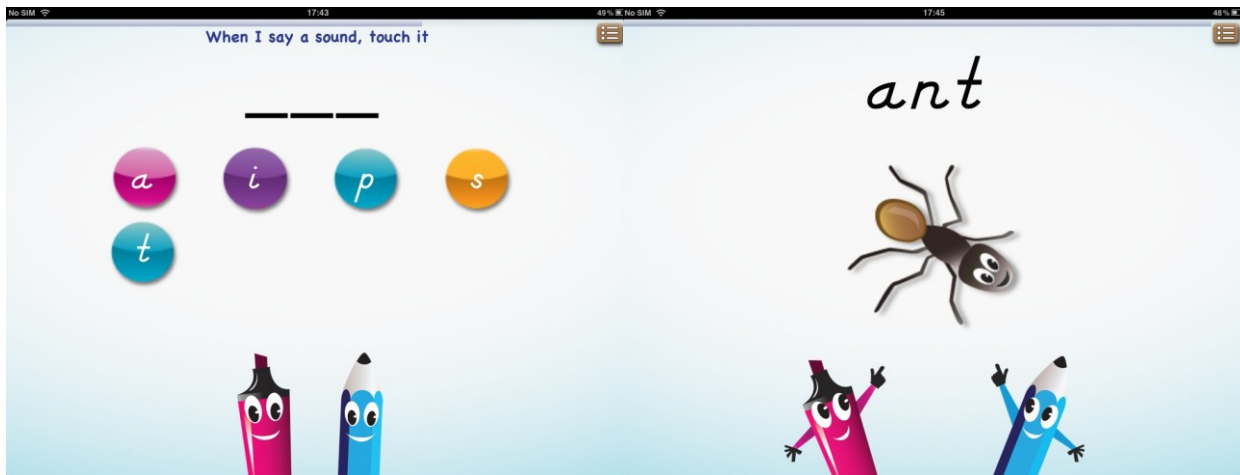


Figure 29: Pocket Phonics based on synthetic phonics.

Access to Stories

Early phonics work, see above, is only part of the process of acquiring literacy. Becoming a reader means having access to books, and learning to listen to and follow (and tell!) stories. There are many wonderful interactive storybooks available, many free or low cost. For example, at the very earliest level:

- Ladybird Book: touch a picture of a lion or tiger and it will growl.
- Peppa Pig Me Books: colourful games along with an engaging storyline.
- The Three Pandas: charmingly illustrated and animated panda version of the three bears story, set to auto-narrate or to allow child to control.

Some are very 'book-like' - but just add a spoken word, often with expressive actors' voices reading, focussing on the language of the story and building listening skills. Others are more visual and/or more interactive. Some allow the child to record his/her own voice to tell the story. Generally, it is desirable to look for Apps or settings that force the child to interact as much as possible - we do not want to use the iPad to replace an adult story-reader, or to behave like television that the child passively 'consumes', we want them to engage with the story process and have their attention drawn to the story text, even if they're not at a stage to read it themselves.

However, children who struggle to maintain auditory attention to language may respond to the multimedia Apps that include video, games and activities, such as:

- Toy Story Read Along is a free multimedia App - you can listen to the story, with the feeling of being inside the movie. There are options to call up a song or a game in mid-story.

A number of Apps act as a bookshop/ library and enable parents to download (buy) new books regularly:

- The Story Mouse Talking Books offers traditional stories, charmingly animated.
- Read Me Stories is a library of animated storybooks -a child can choose and read a new book every day.

Apps to support Literacy difficulties

The iPad offers a range of benefits for learners with literacy difficulties such as dyslexia. However, there are also limitations to what the iPad can offer in terms of adapting or fine tuning its global features, such as background, font colours and font styles of the iOS. These features are particularly important for pupils who experience light sensitivity or visual stress and find colour combinations such as black text on a white background difficult or impossible to read. For example, on a Windows based computer it is possible to customise a range of settings such as background and font colours as well as font styles. Some companies are producing screen coloured overlays which are placed over the iPad's screen as an alternative to colour changing options: http://bit.ly/colour_overlays

While the built-in accessibility features in the iPad offer some adaptations such as White on Black or Large Text, they are better suited to a user with a visual impairment rather than someone with a dyslexia related difficulty. This is worth considering when choosing a device for a dyslexic pupil. Nevertheless there are other built-in benefits that the iPad has to offer, such as Speak Selection, Speak Auto-text and VoiceOver; which read aloud selected sections of text in Apps such as Mail, Safari and Pages (Apple's word processor). It is also possible to use Speak Selection and VoiceOver in some eBooks, although many are narrated.

There are also numerous Apps available for supporting reading and writing which are increasing in both quantity and complexity. Increasingly Apps to support literacy allow the user to fine tune personal preferences, for example, customisation of colour, font size, font style as well as recording and annotation tools, text-to-speech and speech recognition. Unfortunately fine tuning users' preferences is still App specific. While some Apps offer a range of adaptations others contain much less. Finding the most appropriate App to meet individual needs can be a minefield, time-consuming and costly.

The Spectronics 'Apps for Literacy Support' is an excellent resource and is well worth exploring. Here Apps to support literacy are categorised into the following areas: Planning and Organisation, Reading Support, Writing and Notetaking,

Optical Character Recognition and Study Support and Reference:

www.spectronicsinoz.com/apps-for-literacy-support. CALL have also compiled a list of useful Apps to support reading and writing which can be viewed on the CALL Delicious site: www.delicious.com/stacks/callscotland.

1. Apps to support planning and organisation

Mind mapping

With a myriad of mind mapping or concept mapping Apps available on the App Store it can be difficult to choose one which is appropriate. A recent addition is the popular Inspiration mind mapping program which is available as an App. Inspiration Lite allows you to ‘try before you buy’ but you are limited to only two Inspiration maps and you will have to put up with intrusive ‘pop up’ prompts encouraging you to ‘Upgrade Now’.

Nevertheless both Apps offer useful features such as Diagram Background Fill, up to 10 font styles as well as font colour and size options. The interface and set of tools are similar in range to the computer version with options to use the visual or linear interface. There are over 30 ready-made templates which include English Biography, English Essay Outline, History Time Period, Science Classification etc. on offer to get you up and running without a great deal of prior knowledge. You can also use the Speak selection when creating the mind map for text-to-speech and audio support.

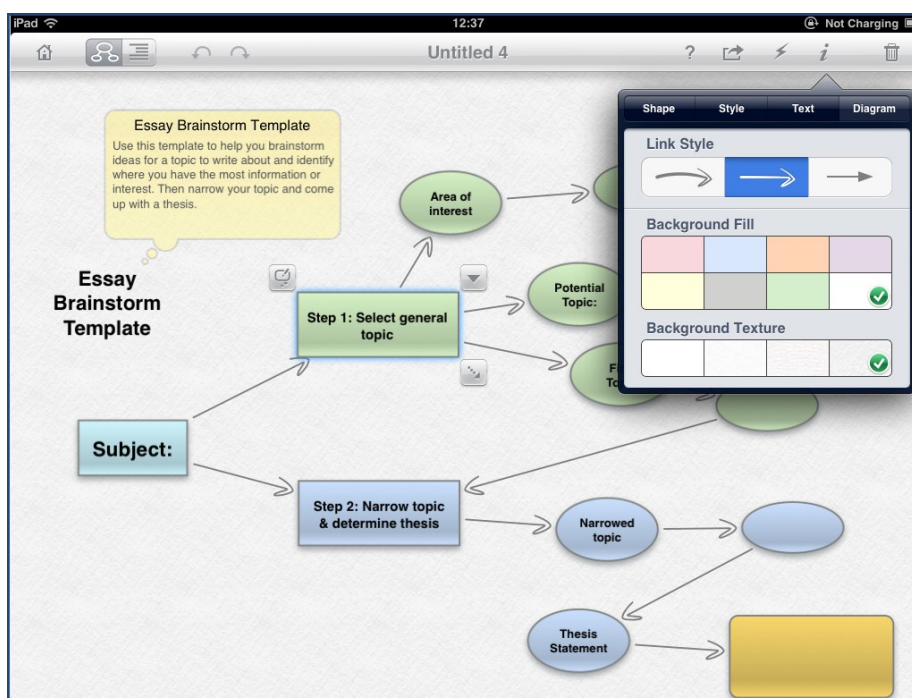


Figure 30: Inspiration offers similar tools to its computer counterpart.

An advantage of Inspiration is the large amount of export options. Although it is possible to export to Mail or Photos or even to Dropbox, there is also an export option to ‘Send to App’ which includes proof reading and text editing Apps such as ClaroSpeak UK or Pages (this is dependent on the Apps installed on your iPad).

Mindjet

Mindjet (Mind Manager) is another mind mapping option although the focus of Mindjet is geared towards business rather than education. It does feature similar tools to Inspiration although the workflow is very different (and possibly more complicated). On a positive note Mindjet is free whereas the full version of Inspiration is currently about £10.00.

Popplet

Popplet offers a simple but effective workflow (easy to create new 'nodes' or subheadings, add text and images). Popplet allows you to create colourful mind maps and features a range of colour and font options, as well as an online collaborative tool, so others can add to the mind map simultaneously.

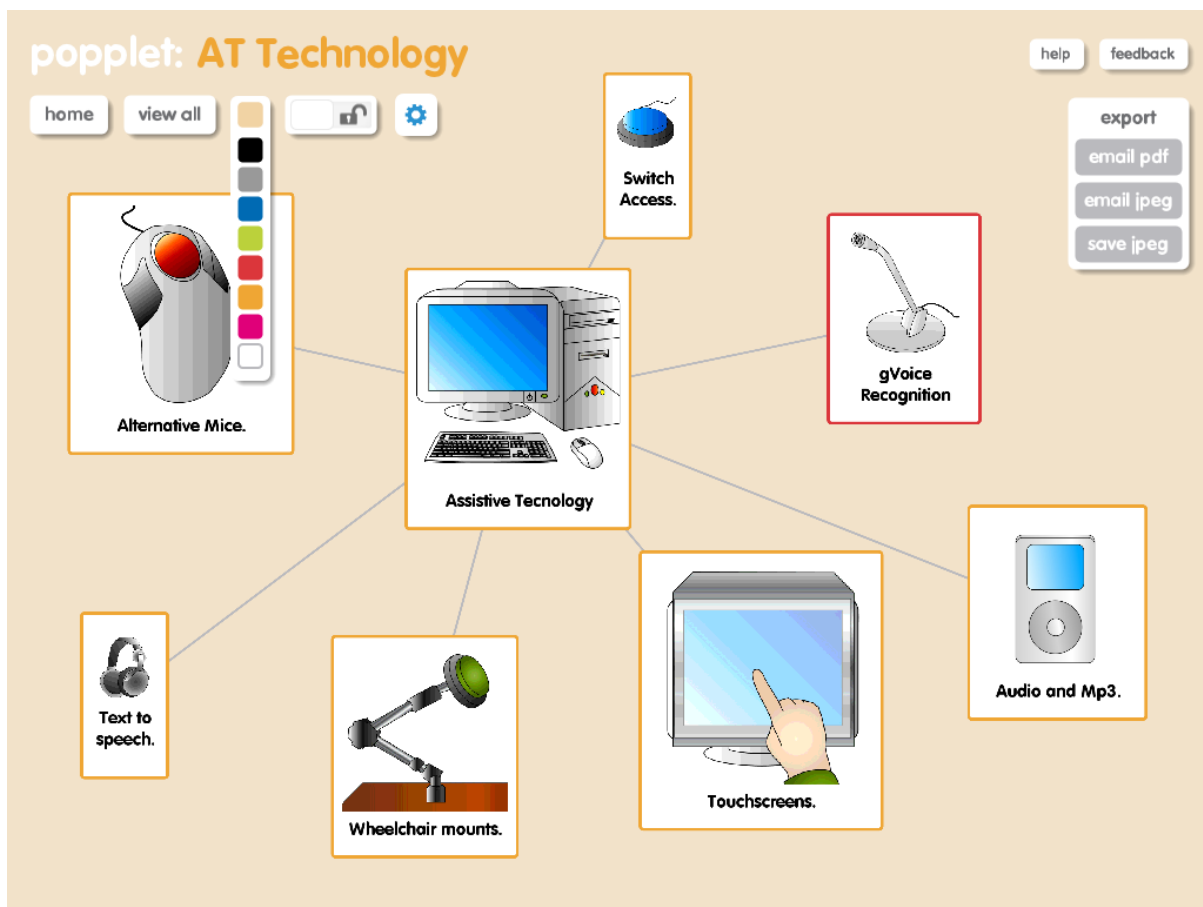


Figure 31: Popplet features font and colour options.

Unfortunately the export options are limited to PDF or the jpeg image format. Popplet is also available as a Lite App but limits the amount of mind maps you can create.

Other examples of mind mapping Apps include iThoughtsHD. This has a graphical interface more akin to the original mind maps of Tony Buzan, who is accredited with being the creator of mind mapping. SimpleMind+ is also worth a look and free although you can upgrade to the full SimpleMind version for about £3.00.

Other Apps to support planning and organisation include:

- **Forgetful:** create reminders using the iPad's built-in camera and/or microphone. As well as being easy-to-use, Forgetful allows you to record voice notes as reminders which can be set to the revolving calendar. You can also take photographic or video reminders which could be a useful alternative to the traditional text/box style calendar.
- **Outline Pro:** includes all the tools you need to help plan and structure essays and other educational projects. Outline Pro provides a structured approach by using headings such as Topic, Introduction, Body Paragraph(s) and Conclusion, to help pupils construct and write essays etc.

2. Apps to Support Reading

Apps to support reading tend to offer features such as text-to-speech, or a facility for copying text from one application such as Safari into the App, which will read the copied text aloud. While most text based Apps can be read aloud using VoiceOver, the advantage that reading support Apps offers is the ability to save text to an audio format such as MP3 which can then be exported to iTunes to listen at a later time.

SpeakIT

Apps such as SpeakIT also offer additional voices as opposed to the default voice in Voiceover. The additional voices can sometimes incur an additional cost, normally between £0.59 to £1.00 which is relatively cheap compared to some computer based synthetic voices. As well as copying text from other applications you can also type directly into SpeakIT.

Clicking the Play button, which is located just above the keyboard, will put SpeakIT into reading mode. Unfortunately SpeakIT will only speak from the beginning of the text and not at the start of a new sentence or the 'cursor' location, which can be frustrating.

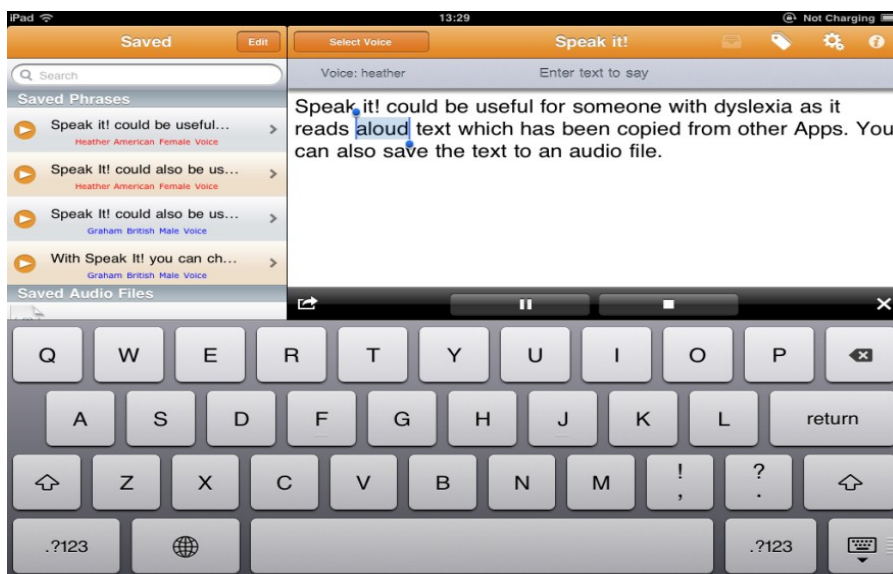


Figure 32: SpeakIT will read aloud text copied from other Apps.

Web Reader

Web Reader is a stand-alone web browser App which reads text from web pages. Features include two voices (Male and Female), an option to change the speech rate speed and colour highlighting as text is read, although there is only one colour, grey, to choose from. Web Reader also features a Bookmarking option so you can save and revisit your favourite web pages.



Figure 33: You can read web pages aloud by clicking the play, pause and stop buttons.

Situated at the top of Web Reader is the speech control bar which is used for playing, pausing and stopping speech playback. The Bookmark and Options settings are located to the right hand side of the control buttons.

ClaroSpeak UK

ClaroSpeak UK combines support for both reading and writing. As well as copying text from other text-based Apps there is also an option to open text files. ClaroSpeak will also read aloud text as it is typed and will read the text wherever the cursor is located. Text can also be saved as a text file or copied to the Clipboard, which can then be opened in other Apps such as Pages (ClaroSpeak could be used as an effective proof reading tool). Text can also be saved as an audio file and sent as an attachment in an email.

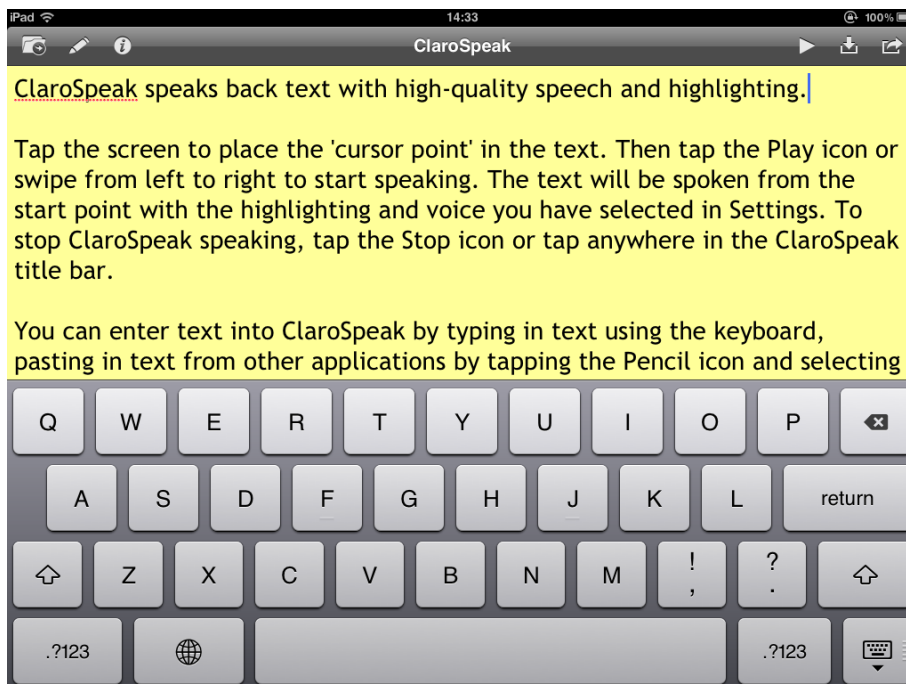


Figure 34: ClaroSpeak UK combines reading and writing support.

There is no way of changing or customising user preferences from the main interface as all the main options are stored in Settings. In Settings there are many options available such as different font styles, sizes and background colours. There are also highlighting options and a choice of 4 voices including Virginie (French) and Monica (Spanish). At the time of writing ClaroRead UK is approximately £3.99.

3. Apps to Support Writing and Notetaking

Writing and notetaking Apps have greatly improved in the number of features they offer, for example, word prediction, speech recognition, spell checking, tools to annotate written notes and on-screen keyboards, which can be customised with different layouts - abc, high frequency, colour contrast.

In some cases Apps such as Abilipad combine word prediction with recorded speech, spell checking and text-to-speech as well as the option to create personalised keyboard layouts. In Figure 35 the first characters of the word 'type' are recognised and predicted accordingly i.e. 'type', 'typical', 'types', etc.

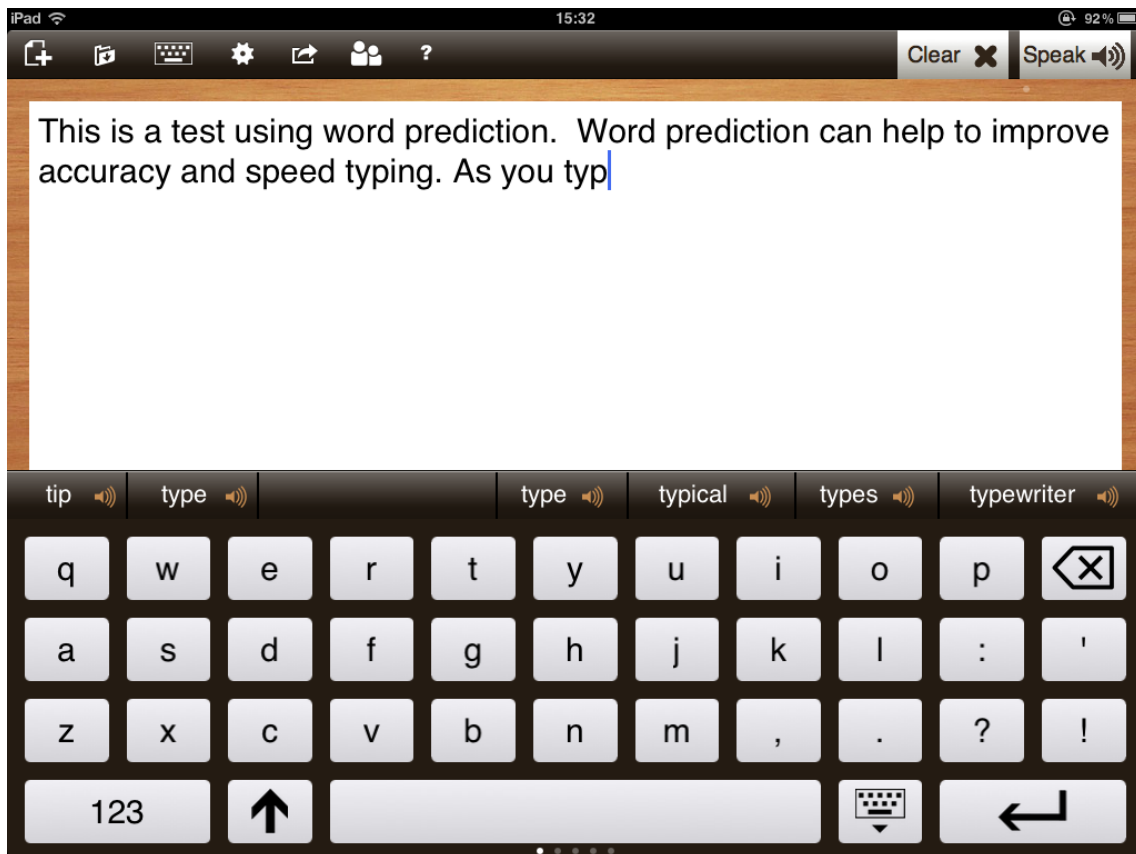


Figure 35: Abilipad combines a range of writing support tools.

Each predicted word can be read aloud by tapping the 'speech' icon. This can help to increase the speed and accuracy of words when typing and can help to build confidence for emergent writers, as well as older pupils (and adults) who require additional support with writing skills.

Word Prediction

Other word prediction Apps include; ZenTap Pro, Typ-O-HD and Brevity. While these Apps are not as feature-rich as Abilipad, they still provide tools to support learners with writing difficulties. For example, Typ-O-HD offers word prediction and text-to-speech, but users can decide on the amount of help they require by selecting the 'How is my spelling' option when the App starts, and selecting either 'Pretty Good', 'I need some help' or 'I need a lot of help'.

Other Apps to support writing include:**Dragon Dictation**

This is a voice recognition App which can be used for 'writing' memos, short notes emails and documents. Like most voice recognition software the speech conversion to text should always be checked for accuracy. Dragon Dictation requires an Internet connection to use it.

AudioNote (Lite version available)

AudioNote is useful for taking both written and audio notes which can be synchronised together and played back at a later time.

Voice Dream

Voice Dream provides an integrated approach to opening documents such as Word, PDF and Pages, from a Dropbox account or the Safari web browser (no need to copy and paste text from other applications). Text is displayed in a linear and uncluttered format which is read out loud with line highlighting.

Notability

Notability offers a large selection of annotation tools such as highlighting markers, pencil for hand writing and speech recognition for adding voice notes to images, text etc. Notes can be arranged by subject or category and there is a helpful search facility to quickly find saved Notes. Notability also includes different colour backgrounds as well as lined or graph paper. Notes can be exported and shared by email, or sent as a PDF.

PaperPort Notes

Developed by Nuance, a voice recognition company, this free App offers similar tools to Notability such as colour highlighting to annotate notes, voice recording to add voice notes and bookmarking. You can also import existing documents from Dropbox or take clippings (websnaps) from a web browser without leaving the App.

4. Apps to Support Optical Character Recognition (OCR)

Combined with the iPad's camera and an appropriate App, the iPad can be used as a portable (document) scanner which can scan, convert images to editable text and store paper documents, notes, receipts and more.

With the arrival of the New iPad and its HD camera the accuracy of conversion and recognition is reportedly better than previous iPads. Nevertheless the accuracy of the conversion from the original paper document is dependent on a number of factors, for example, the condition of the document, the type face, the amount of light or brightness available and the angle of the iPad in relation to the document when scanning.

It should be remembered that using the iPad as an OCR device is not an exact science and although OCR software is improving the end result is often disappointing.

AppWriter

Costing £12.00, AppWriter is one of the more expensive OCR Apps on the App Store although it boasts numerous features such as image conversion to editable text and text-to-speech. Unfortunately the conversion process proved to be disappointing, even when using a clear and crisp original document, in good light conditions and following the 'Recommendations for improved OCR results' guide.

However, AppWriter is much more than an OCR program as it integrates word prediction and other options for reading text aloud, including a screen reading feature.

AppWriter can also link to a Google Docs account allowing users to add Word and PDF documents to its internal document folder.

Downloaded documents can be edited, read aloud or shared to Dropbox and emailed as a text attachment.

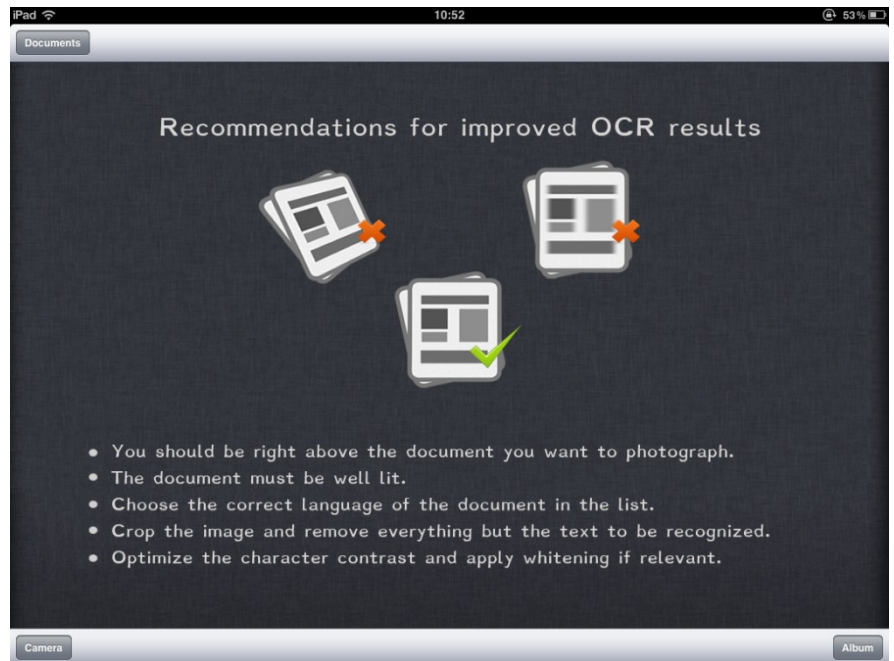


Figure 36: AppWriter gave poor OCR results despite following the guide.

Other Apps in this section include:

Prizmo

Prizmo is an iPhone App but is compatible with the iPad. Its main feature includes an accurate OCR converter for converting documents to editable text, which can be saved. Prizmo also features integrated text-to-speech so scanned documents can be read aloud. Compared to Apps such as AppWriter, Prizmo's OCR capability is much more accurate.

5. Apps to Support Study and Reference

Increasingly many Apps, particularly e-Book reading Apps, are integrating both study and reference tools as added extras. Apps such as Safari, Kindle, Kobo and Google's Play Books include features such as 'look up' and 'define' when single words are selected from within the text. However, dedicated study and reference Apps offer more refined and additional features that would benefit all learners.

One example is Evernote which provides a single repository for collecting reference material such as web clippings, web links or URLs, images and or audio recordings. References which have been saved and collated or stored in an Evernote 'notebook', can also be synchronised between the iPad and Evernote's online web resource. Clippings and other material can be shared to Facebook,

Twitter or sent by email. Although Evernote is free there is a 'Go Premium' option which offers some additional features and storage space.

More traditional support tools such as dictionaries and thesauruses are bountiful on the App store but the Dictionary.com App currently receives a 5 star customer rating.

Dictionary.com (Dictionary and Thesaurus) for iPad

Like its online counterpart Dictionary.com, the Dictionary App offers a crisp and minimal interface with accessible and easy to understand word definitions. The free version includes adverts which could be distracting to some pupils. Themes are limited in terms of colour options, but words (not word definitions) can be read aloud. There is also a voice search option which is reasonably accurate but, like most voice or speech recognition Apps, it requires a Wi-Fi connection. Fortunately the App does not require a Wi-Fi connection and works in offline mode.

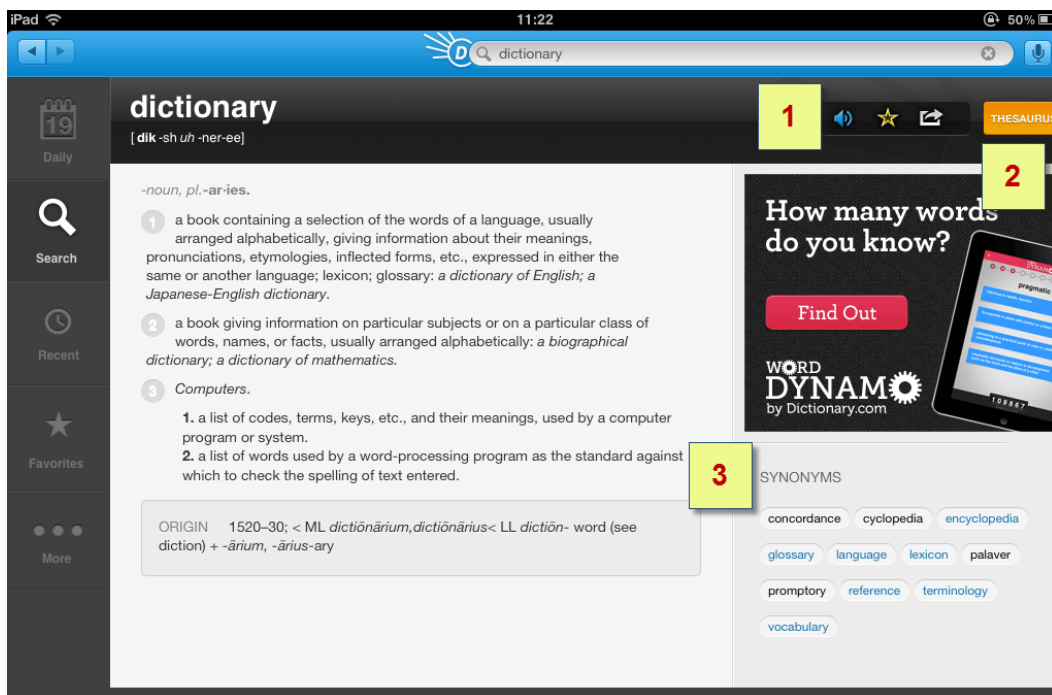


Figure 37: Dictionary.com is an integrated dictionary and thesaurus.

Additional features include:

1. Option to read word aloud.
2. Switch interface between dictionary and thesaurus.
3. Additional option for synonyms.

As well as the search facility, users can create a list of 'Favourites' and recently searched words. Under 'More' there are options to change background colours. There is also a fun, novel, but possibly superfluous feature, to 'Shake for a word'. Word definitions can also be sent by email.

Other Apps in this section include:

Wikipedia Mobile

Wikipedia Mobile is the official Wikipedia App for the iPad containing over 20 million articles. Features include an option to save articles and read articles at a later date or offline.

MyHomework

Never miss a homework deadline with this helpful App. MyHomework can also be synchronised with an online web based version so there's no excuse to miss class, or project deadlines. You can also set reminders for tests, upcoming homework and tick completed homework ensuring you are well prepared - useful for school and college students.

Evernote

Evernote is one of the more popular Apps in the App Store. Evernote is a free App which essentially provides a repository; a collection point for images, websites and clips and snippets of text which can be stored in one place. Evernote can also be accessed online (via a web page) which means that everything stored on your iPad (with a Wi-Fi connection) is automatically synchronised to your personal Evernote webpage.

6. Apps to Support Visual Difficulties

The built-in Accessibility options in iOS 5 (and later) such as Zoom and VoiceOver offer many users with a visual impairment increased access and usability to most aspects of an iPad, including access to Apps such as Safari, Notes and Mail. Increasingly Apps are appearing which aim to simulate traditional hardware devices such as portable magnifiers and CCTV using the iPad's camera. Other Apps include audio alarms or reminders, talking calculators, GPS and navigation and bar code scanners, which can read aloud the cost of shopping items.

AppleVis Website

A useful starting point is AppleVis: www.applevis.com a "community-powered website for blind and low-vision users of Apple's range of Mac computers, the iPhone, iPad and iPod Touch." The main focus of the website is that Apps are tested and reviewed by visually impaired users. AppleVis also offers a forum, a blog as well as guides, tutorials, tips and the AppleVis iOS Hall of Fame which showcases Apps that have been nominated and 'inducted' as worthy Apps.

BrailleTouch

Another exciting area of development is Apps to support Braille users. The option to connect to external Braille devices already exists within Accessibility (see Chapter 3: Accessibility Options) but writing or reading Braille on the iPad with the option of voice feedback is new. BrailleTouch is described as an "eye-free text entry application for touchscreen mobile devices":

http://bit.ly/brailletouch_ipad.

JustStand

JustStand is an iPad holder which transforms the iPad into a document camera: www.ipaddocumentcamera.com. Coupled with the free 'Magnifying Glass with Light' App (which uses the iPad's camera to zoom from 1.5 x - 5 x, you essentially have a very cheap alternative to a CCTV device. The Pro version of Magnifying Glass with Light (£0.69p) also features high contrast and an enhanced 'Freeze' feature for capturing images.

Other Apps in this section include:

oMoby

oMoby is a free App which allows you to take a picture of an item or scan its bar code and then search the internet to find more information about the product. oMoby is also compatible with VoiceOver.

Talking Scientific Calculator (Lite version available)

A comprehensive featured calculator that reads aloud buttons and answers - adding, subtracting, multiplication, division, fractions and other mathematical formulae. As well as option for large buttons Talking Scientific Calculator also features high contrast and voice options.

Ariadne GPS

This is a location service centred App which uses VoiceOver to read aloud the names roads and streets by touching the map. Adriane GPS was showcased on AppleVis and received positive reviews.

7. e-Books

The iBooks App provides a doorway to thousands of electronic books (e-Books) which can be downloaded from iTunes directly onto the iPad and stored in the iBook's Bookshelf. The range of books is immense, from early reading books, to crime, romance, science fiction and classics (many of the classic eBooks are 'out of copyright' and are free).

The iBooks App has options to change the colour background, font size and style, and some books offer text-to-speech while others have built-in audio. Depending on the style of book, iBooks has the potential to engage reluctant and/or struggling readers to an immersive world of colourful, engaging and interactive books.

Many of the books are beautifully illustrated with images and video, and increasingly books offer the opportunity to share stories and ideas through social networking sites such as Facebook.

Another attractive feature is that you can publish your own personal books, which may motivate learners at the early stages of literacy. For example, using the Story Creator App (mentioned above as a 'photo story App') the learner can build a personalised book using photos, recorded speech, their favourite music and video which and then published and shared.

Anatomy of an iBook

The iPad displays electronic books in two sizes depending on how the iPad is held. When held vertically a book is displayed in a single large page. When held horizontally the book rotates into a two spread display. The iPad displays text in different fonts including Athelas, Charter, Georgie, Iowan, Platino, Seravek and Times New Roman. The reader can also choose from a number of font sizes from small to very large.

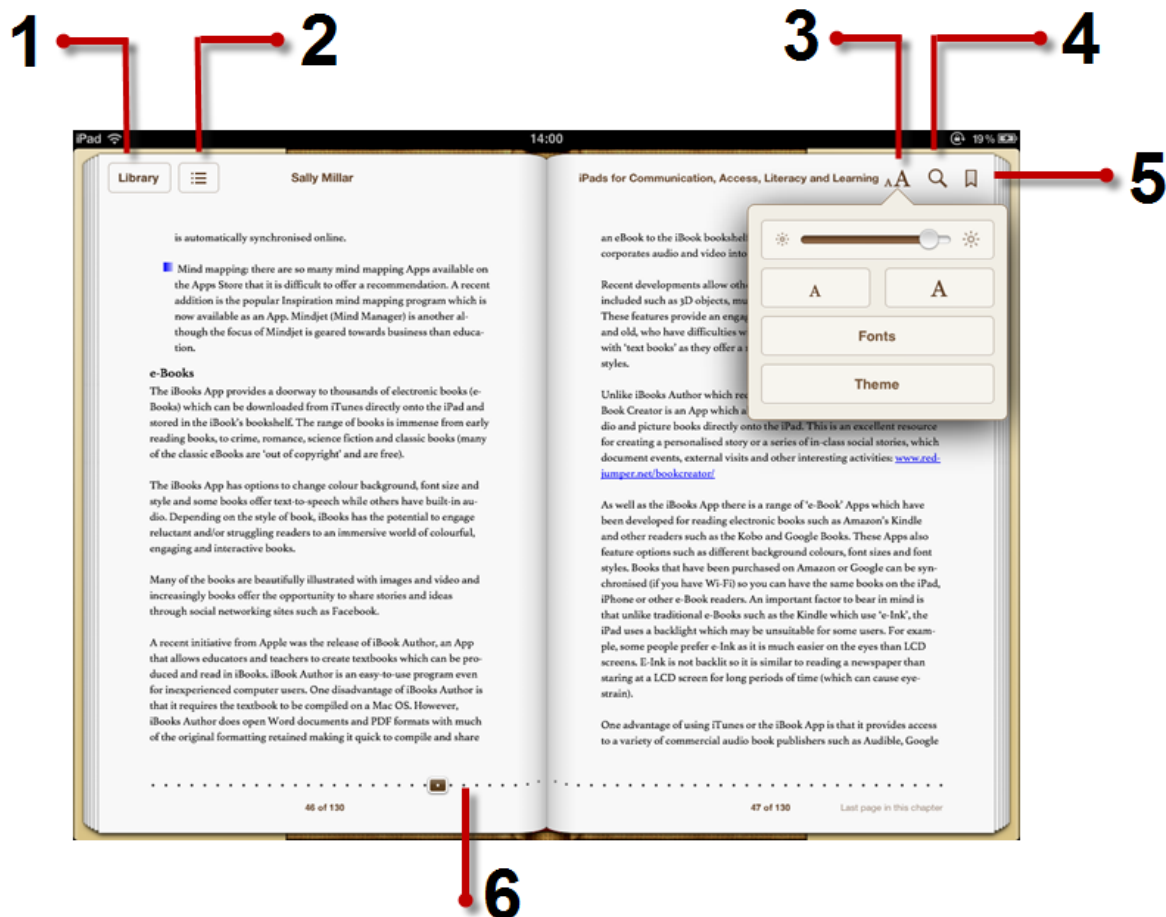


Figure 38: An overview of an iBook.

1. Library: touch or tap 'Library' to return to your iBooks collection.
2. Index: you can move between the Index page to navigate to a specific chapter of the book or table of contents. When in 'Index' mode the Index button changes to 'Resume' allowing you to move back to your original page. The Index page also features Bookmarks and Notes. Notes can be created by tapping or selecting individual words or sentences.
3. Font and Themes: this provides some useful options particularly for learners with dyslexia and/or visual difficulties. Fonts can be increased in size with Sepia and Night (high contrast) themes if required. There is also a slider button at the top of the panel for increasing and decreasing the display brightness levels. There are 7 fonts to choose from.

4. Search: search for keywords or page numbers.
5. Bookmark: this option allows you to bookmark favourite pages of the book. Selected bookmarks are collated and can be found in the Index section.
6. Page Slider: can be used to navigate through the pages of a book. By holding down and sliding the bar pages will be displayed in relative chapters and page numbers.

As well as these useful features iBooks provide other options which can benefit many learners. By tapping and holding down a word or sentence, iBooks will:

- Speak - words or sentences can be read aloud.
- Copy - copy a selection of text to another text-based App such as Notes or Pages.
- Define - provide word definitions with the iBook's built-in dictionary or options to 'Search Web' or 'Search Wikipedia'.
- Highlight - option to highlight words/sentences in a range of colours.
- Add Notes - you can add personal notes to any selected text. Both highlighted text and notes can be found in one place by selecting Index.

A recent initiative from Apple was the release of iBook Author, an application that runs on a Mac and allows educators and teachers to create and produce textbooks that can be read in an iBook format. It is an easy-to-use program even for inexperienced computer users. iBooks Author opens and convert Word documents and PDF formats retaining the original formatting. This makes it quick to compile and share an electronic textbook.

The program integrates text, images, audio and video as well as interactive and engaging elements including 3D objects, multiple choice quizzes and flash cards. These features provide engaging ways for learners, both young and old to interact with electronic textbooks given the range of auditory and visual learning styles offered.

Book Creator (see Chapter 2: Apps to Support Teaching and Learning) is an App which allows the user to create personalised audio and picture books. This is an excellent resource for creating a personalised story or a series of in-class social stories for recording events, external visits and other interesting activities:

www.redjumper.net/bookcreator/

e-Book Apps

There are also 'e-Book' Apps which have been developed for reading electronic books such as Amazon's Kindle, Kobo and Google Books. These Apps feature options such as different background colours, font sizes and font styles. Books that have been purchased on Amazon or Google can be synchronised (if you have Wi-Fi) so you can have the same books on the iPad, iPhone or other e-Book readers. Bear in mind that unlike e-Book readers such as the Kindle which uses 'e-Ink' (text appears as if reading a newspaper or a paperback book) the iPad is backlit and brighter. Some people prefer to read e-Ink as it is much easier on the eye. The iPad's backlit LCD screen could cause eyestrain when used for long periods of time.

Audio Books

One advantage of using iTunes or the iBook App is that it provides access to a variety of commercial audio books. Publishers such as Audible, Google Books, Overdrive, Barnes & Noble, Kindle and Kobo all offer books in audio only format. Simply download the relevant App (mostly free) to your device - a full list of publishers and audio book resources are available from the iTunes/App Store book list: <http://bit.ly/wTYXkq>

Podcasts

Originally a podcast was an audio format comprising of a series of episodes for streaming online or downloading to your computer or portable device via an RSS (Really Simple Syndication) Feed or Aggregator. Increasingly podcasts now contain video (sometimes known as vodcasts) and are available from the iTunes store in a range of curriculum subjects. The iTunes U App is a collection of educational resources in podcast format in both audio and video.

Although the iTunes U App is most relevant to college and university students (with over 500,000 free lectures, videos, books, and other subjects), it is worth exploring as an alternative learning resource.

For more information on the iTunes U App go to: <http://bit.ly/iTunesUApp> or to find out how to make the most of podcasts you can visit the Apple Podcasting site: www.apple.com/itunes/podcasts/

Summary

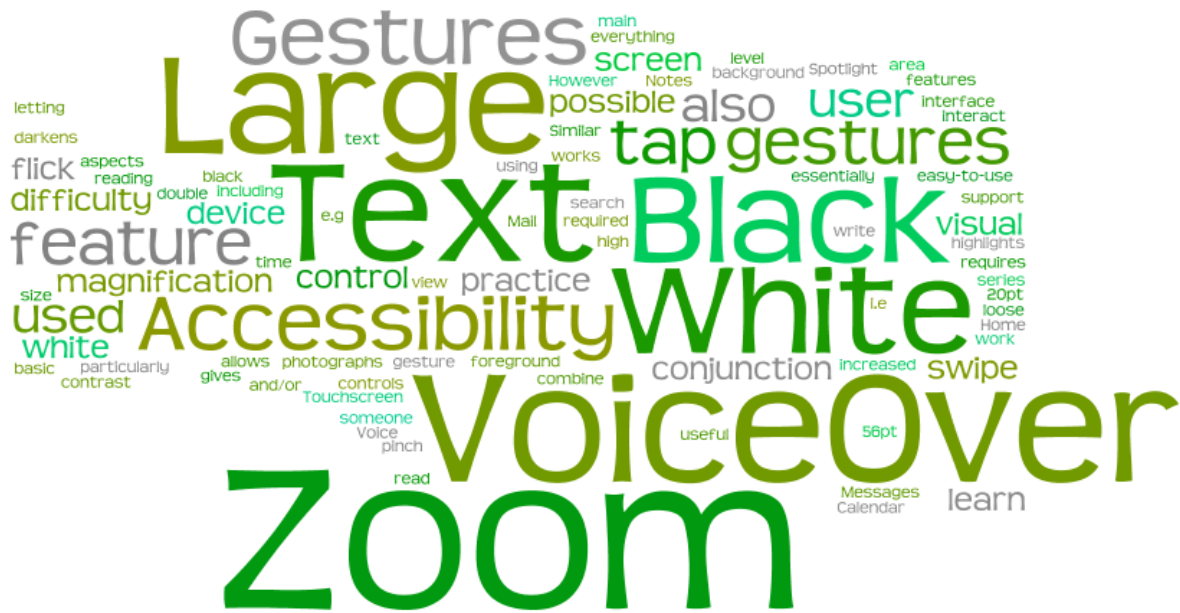
The discussion above hopefully gives a flavour of the wide range of options available, the potential value of many Apps, some key factors to bear in mind, and features to look out for (or avoid).

There is no doubt that we have powerful tools here to help overcome barriers arising from disabilities, to motivate and engage learners in exciting new ways.

However, the ever-growing range of low cost, novel and stimulating Apps is almost overwhelming. In the face of this revolution, are we perhaps just trying to grab 'everything' and failing to evaluate critically enough the worth of the Apps that we introduce to our learners?

As Ian Bean stressed in his presentation to the Inclusive Learning Technologies conference in Australia, 2012, there is nothing magical about sitting a child down with technology. The 'one Killer App' that truly transforms teaching, learning, communication and leisure is not anything that can be downloaded from iTunes. The must-have killer App is actually the teacher - or other professional, or parent - that works with the learner day to day.

Chapter 3: Accessibility Options



Introduction

You don't have to look too far in the App Store to see there is a range of magnifiers, text-to-speech and other Apps to support learners with additional needs.

Although most of these Apps are fairly inexpensive there are others which are costly and don't offer any additional benefit compared to some of the built-in features which come with your device.

So before you start downloading, take a minute to look under the bonnet of your iPhone or iPad and spend some time tinkering with the tools in the 'Settings', in particular in 'Accessibility'.

Apple includes assistive technology in its products as standard features but with the latest iOS 5.1.1, there are a

number of significant enhancements and improvements. Note: iOS 4 has many of these options but to get the full range you will need to update to iOS 5 or later. Accessibility includes the following:

VoiceOver

Touchscreen screen reading used with gestures, i.e. tap, double tap, flick, swipe, swipe and tap.

VoiceOver allows a user with a visual difficulty to control, interact, read and write everything on the screen by using a series of gestures.

VoiceOver also features a 'practice area' so you can learn the main gestures before going 'live' on your device.

Zoom

Zoom is a magnification feature that gives the user control over the magnification level of the device - up to 500%. Zoom will also work on all aspects of the interface, including Home and Spotlight (easy-to-use search feature). Similar to VoiceOver, Zoom requires the user to learn some basic gesture controls. Zoom can also be used in conjunction with other gestures, particularly when viewing photographs, e.g. flick, pinch and tap. It is not possible to have Zoom and VoiceOver on at the same time.

Large Text

Large Text is a useful feature that can support someone with a visual difficulty. The size of text can be increased from 20pt to 56pt. Large Text only works in Calendar, Mail, Messages and Notes. However, in some Apps such as Pages (Apple's word processor) text can be increased to 144 points. It is possible to combine Large Text with White on Black and/or Zoom.

White on Black

This is a high contrast feature which darkens the background and highlights the foreground in white - white on black. White on Black can be used in conjunction with Zoom and if required, Voice Over.

While many of the Accessibility features are useful for learners with a visual impairment or literacy difficulties, options to support learners with a physical or mobility disability are limited. However, there are a number of low-tech devices on the market such as keyguards, styluses and switches, which provide increased access to iPads.

This guide will explore both the built-in accessibility features and accessories to give you a starting point so your learners are able to maximise the potential that the iPad offers to help access the curriculum.

Getting started

1. The first step is to tap the Settings button. This opens all the options within Settings.



Figure 39: Accessibility can be found in Settings.

2. When the Settings Panel opens, select General.
3. Scroll down the page until you come to Accessibility.

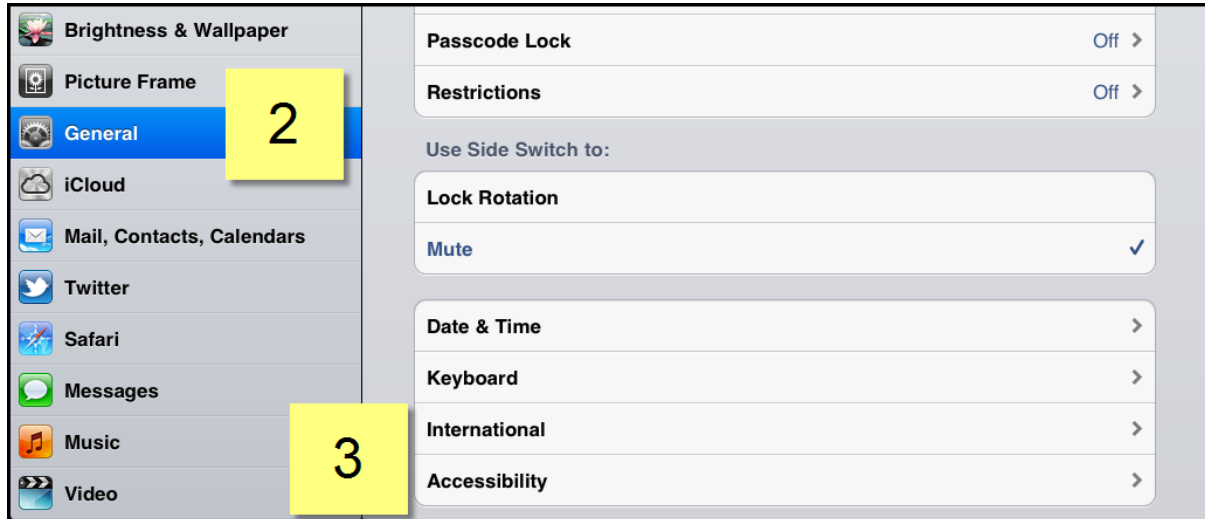


Figure 40: Go to General and scroll down to Accessibility.

Accessibility

As you can see from the illustration below all the main Accessibility options in iOS 5.1.1 are located here: VoiceOver, Zoom, Large Text, White on Black, Speak Selection, Speak Auto-text, Hearing, Assistive Touch and Triple-click home.

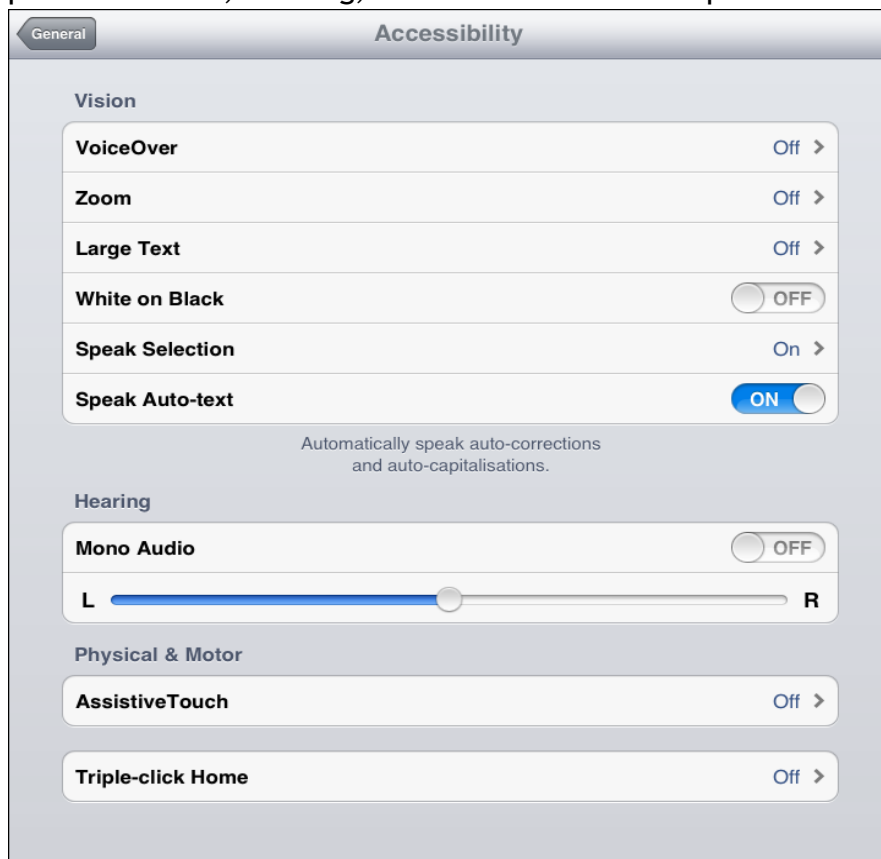


Figure 41: Accessibility options in one place.

However, it should also be noted that there are also some useful ‘accessibility’ features that are not immediately obvious, such as abbreviation expansion and the on-screen keyboard options. These will be covered in due course.

VoiceOver

VoiceOver is the iPad’s version of a screen reader, i.e. a feature that will read aloud content on the screen, particularly when an item such as a button or text is tapped or touched. Currently there is only one default male voice. There are no options to change the voice but it is possible to change the rate or the speed of the voice and there are other options which can be set for typing feedback, i.e. option to speak individual characters or words when typing with the on-screen keyboard or when using an external keyboard.

There are some useful but simple gestures that allow a blind or visually impaired user to interact with items on the screen such as tapping, double tapping, three finger swiping which will initially require some practice and familiarisation.

1. To start VoiceOver, select or tap On. VoiceOver will start reading information aloud whenever and wherever you touch or select an item. Double tapping with 3 fingers will switch speech on and off but it will not close VoiceOver. Take care - if you triple tap you will black out the screen (i.e. turn on the screen curtain)! To see the screen again triple tap to turn the screen curtain off. More information about this in point 3.
2. VoiceOver works more efficiently when you use Gestures. For example, ‘Double tap’ to activate an item, such as turning VoiceOver On and Off. To navigate back to the Accessibility options, double tap the Accessibility button at the top of page and so on.

To scroll through items or pages, ‘Flick’ the screen with three fingers. Another way to navigate around the screen is to hold your finger down and glide it along the screen. VoiceOver will read each item aloud, then simply double tap the item to open.

3. When VoiceOver is activated a new button appears on the screen called ‘VoiceOver Practice’. VoiceOver Practice is designed to be a ‘safe’ area where you can practice taps, double tapping, flicks etc. VoiceOver Practice is supported with speech guidance which speaks relevant commands. It is recommend that you use VoiceOver Practice to familiarise yourself with the different commands and gestures.

Screen Curtain - triple tapping anywhere on the screen will activate Screen Curtain. This will black-out the screen, simulating what it would be for a blind user. To switch off Screen Curtain, triple tap the screen with three fingers. Most people, if they do it by accident, think they have broken the iPad. Don’t Panic!

4. Speaking Rate is a simple sliding bar to increase or decrease the rate of the speech.

5. There are some options in this section that allow you to finely tune VoiceOver. For example 'Typing Feedback' provides options for software keyboards and hardware keyboards (Bluetooth attachment). You can choose to set VoiceOver to speak characters, words, and a combination of both characters and words.

Pitch Change will change the pitch of the voice, e.g. when pronouncing capital letters etc.

6. This section offers additional features such as connecting the iPad to an external Braille device via Bluetooth.

The Rotor option allows you to select which items of the screen VoiceOver should be read, particularly when typing or reading information in the Safari browser.

The list is more extensive than shown here and also includes Text Fields, Search Fields and Buttons.

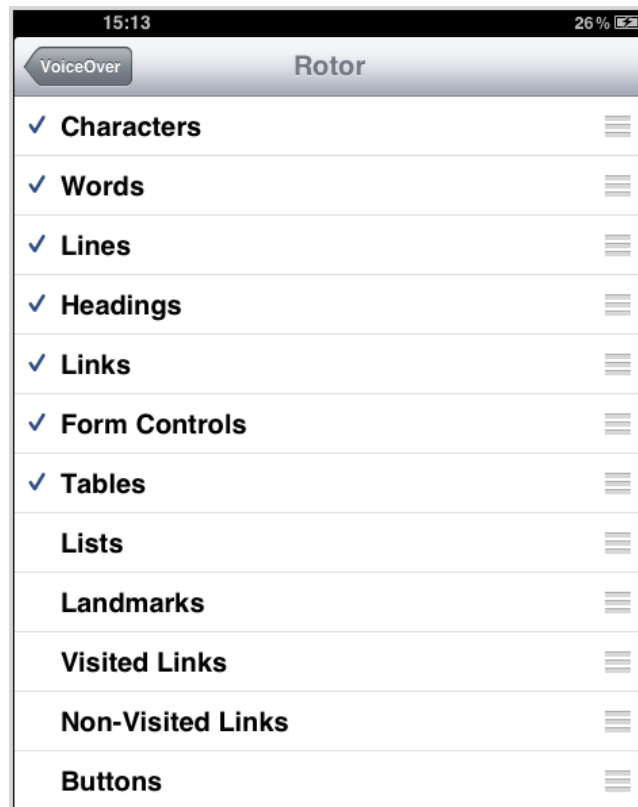


Figure 42: Rotor allows you to fine tune what VoiceOver reads aloud.

Using the iPad with a Braille display

The iPad supports over 30 Bluetooth wireless Braille displays without any additional software. In order to connect a Bluetooth Braille display to an iPad you first of all need to 'pair' the iPad with an appropriate Bluetooth Braille display.

To switch on Bluetooth on your iPad go to Settings, General and Bluetooth. Remember that long usage of Bluetooth can impact on the length of your iPad's battery life. For a complete list of iPad compatible Braille displays select the following link: bit.ly/iPad_Braille_Displays



Figure 43: Using the iPad with a Braille display.

Zoom

Similar to VoiceOver, Zoom also requires to be used with some basic gestures. It is not possible to use Zoom in tandem with VoiceOver. They can only be used separately.

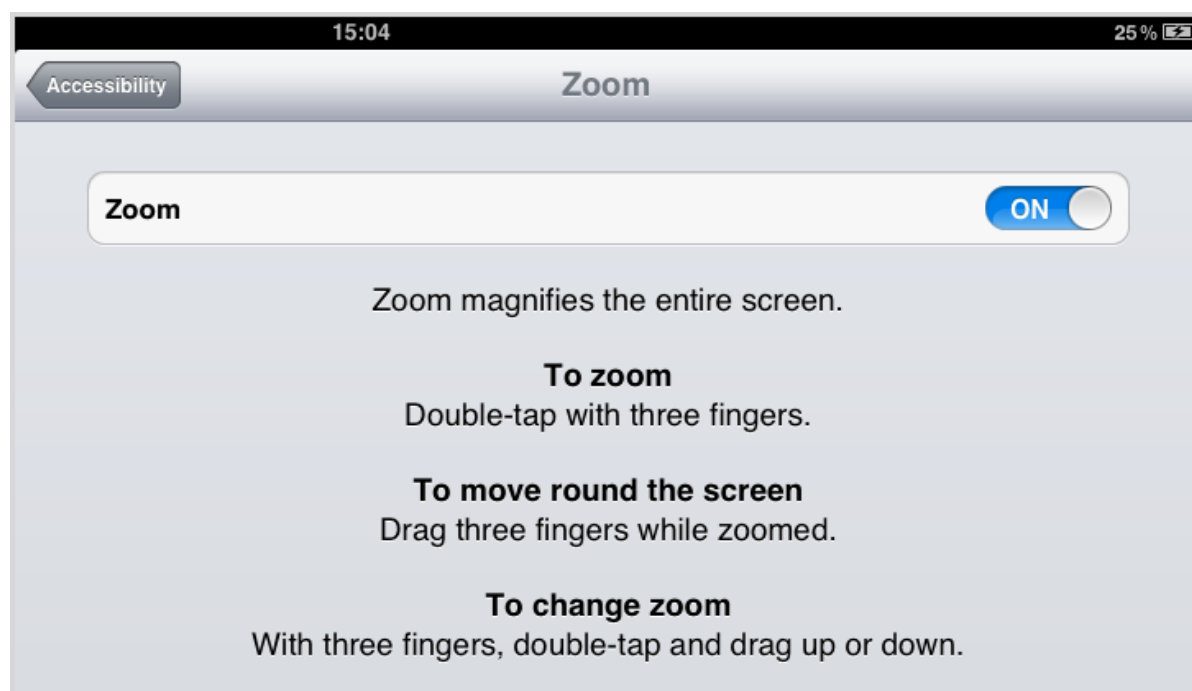


Figure 44: Zoom magnifies the whole screen.



Figure 45: Buttons, icons and other items can be magnified up to 500%

Large Text

As you can see from the Figure 46, Large Text offers significant visual enhancements for someone with visual difficulties. The size of text can be increased from 20pt to 56pt. Large Text only works in Calendar, Mail, Messages and Notes but it will not increase the size of the font on the keyboard. However, it is possible to use Large Text in conjunction with other Accessibility features such as Zoom and White on Black (see next section).

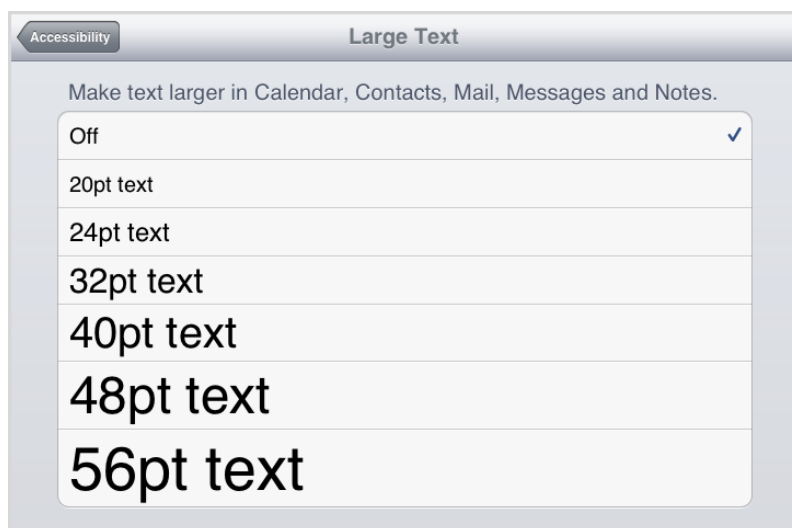


Figure 46: Text can be set up to 56 pt.



Figure 47: Large Text can be increased from 20pt to 56pt.

White On Black

When White On Black is activated it will invert screen colour and text.

The background becomes predominantly black, text is shown in white (Application text changes to a creamy gray colour) and highlighting and activated buttons are shown with an orange tinge, similar to Figure 48.

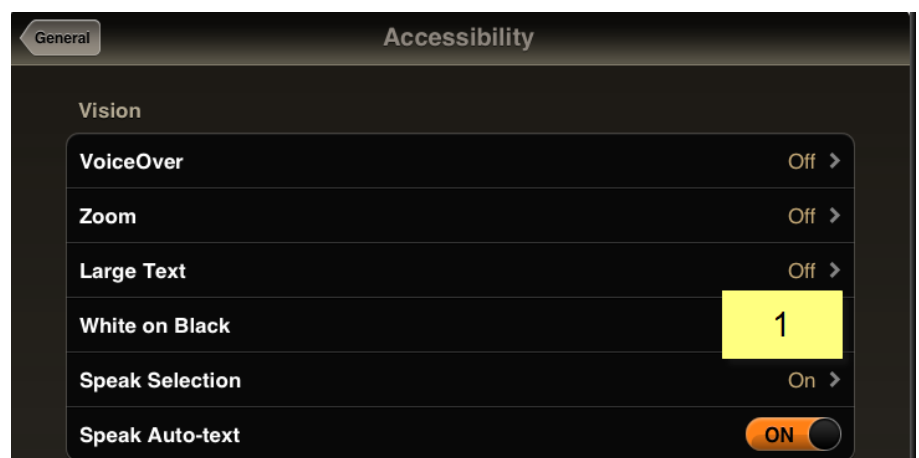


Figure 48: White on Black inverts screen colour and text.

Speak Selection

Speak Selection is a new feature in iOS 5. Speak Selection will use text-to-speech to read the selected text aloud. You can define how much text you want Speak Selection to read by selecting and defining the text - tapping and holding/dragging the selection handles.

When you have selected your chosen text, tap the 'Speak' option. Speak Selection uses the default voice in VoiceOver and there is currently no option to change the voice.

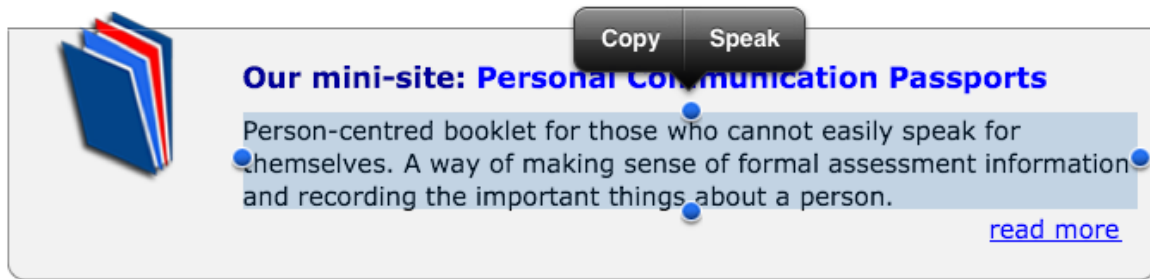


Figure 49: Speak Selection will read selected text.

Hearing

The Hearing option could be useful for a user who has hearing difficulties in one ear. To benefit from the Hearing option, you will need to use headphones and set the Hearing slider bar to whichever ear has the best auditory ability. For example, if the user hears best with their left ear then the Hearing slider bar should be set to the left hand side.

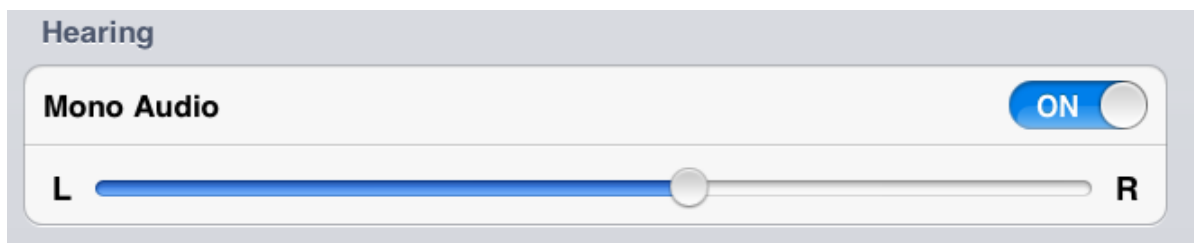


Figure 50: Hearing can help with hearing difficulties.

In the iPhone there are additional hearing options whereby you can assign unique vibration patterns to people in Contacts.

Assistive Touch

Assistive Touch is another new feature in iOS 5. Assistive Touch allows users to perform gestures and button actions on the iPad with one touch. When Assistive Touch is activated it initially appears as a large transparent circle.

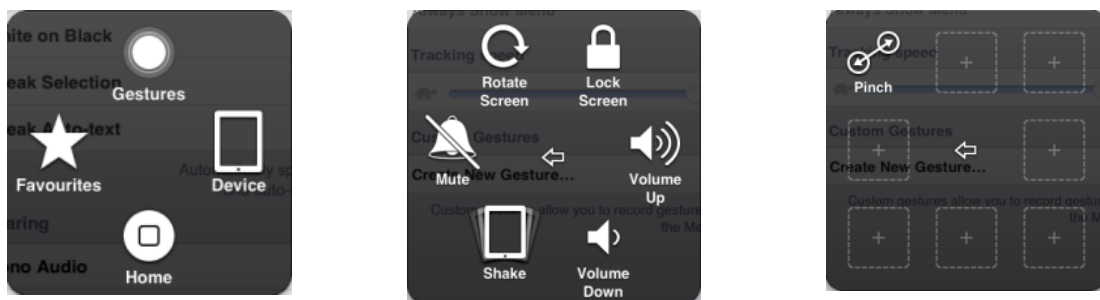


Figure 51: Assistive Touch allows users to perform gestures with one touch.

The transparent circle can be placed anywhere on the screen. The Assistive Touch menu appears as a transparent square which sits 'above' the screen and has four different options; Gestures, Device, Favourites and Home.

Assistive Touch provides one-tap access to all of the iPad's functions including rotation, shaking, volume changes and even gestures.



Figure 52: Assistive touch provides support with mobility difficulties.

Gestures such as pinch and swipe can be recalled by a tap, and custom gestures can even be recorded and played back on command.

Assistive Touch would be particularly useful for someone who is physically unable to use the hardware features on the iPad, such as volume control, Home button, rotate screen etc.

It has also been designed to work alongside other assistive technologies, such as a head pointer. Assistive Touch allows users with complex mobility difficulties to use the iPad by simple taps.

Assistive Touch can also be used as a replacement option if the Home button becomes 'sticky' or unresponsive to taps - this can sometimes happen on older or faulty iPads. You can replicate taps and double taps by using the Home button on Assistive Touch.

Triple-click Home

Triple-click home provides a quick and easy shortcut for starting your favourite accessibility features without the need to go into the Settings, General and Accessibility options.

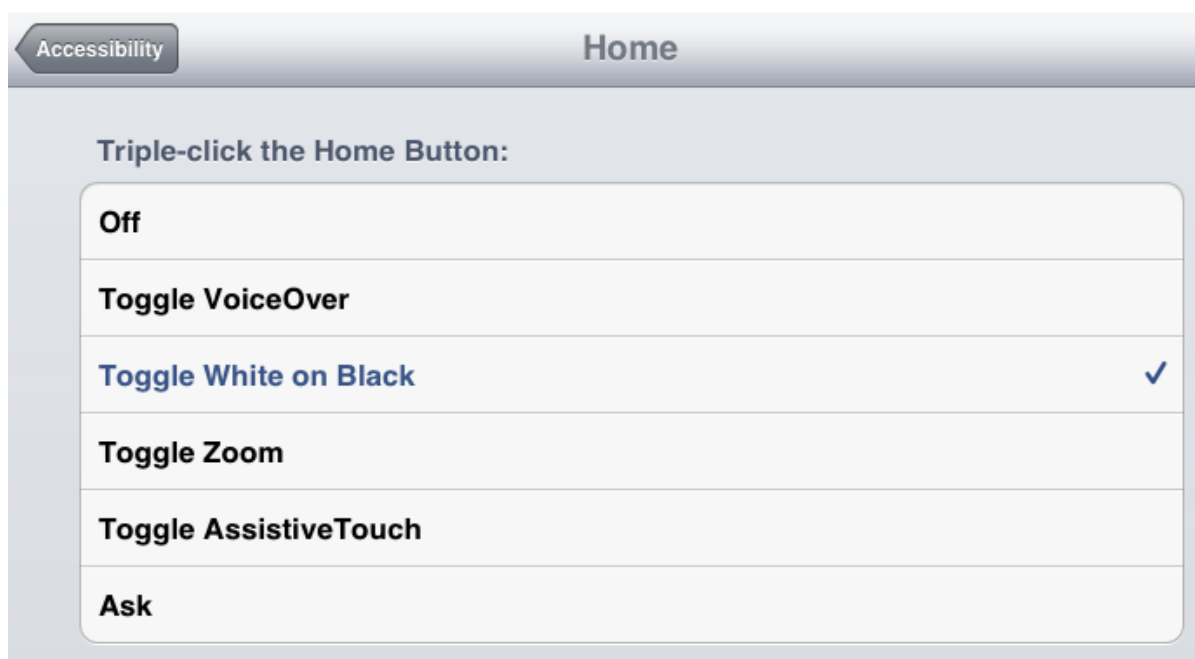


Figure 53: Triple-click home is a quick way of activating Accessibility.

To use Triple-click home select the feature you want to use in the Triple-click Home panel. If you would prefer to be prompted which feature you would like to use, rather than being forced to use one option, select 'Ask'.

Otherwise choose your preferred feature and then 'triple click' the Home button on your iPad to activate the feature.

It is also possible to use Assistive Touch in conjunction with Triple-click home. For example, if you have a user who is unable to click the Home button it is possible to create Custom gestures which allow you record gestures that can be activated from Favourites in the Menu.

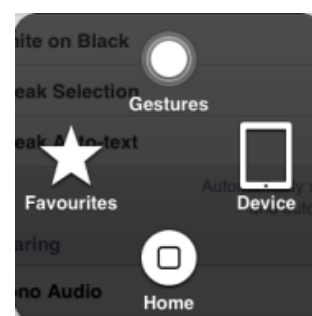


Figure 54: Use Triple-click with Assistive Touch

Using a Head Pointer with Assistive Touch

One example of how someone could benefit from Assistive Touch is when it is combined with a head pointer, similar to RJ Cooper's DIY iPad Headpointer; www.rjcooper.com/tablet-pointer/index.html. Assistive Touch combined with a head pointer can allow someone who has limited hand and touch mobility to control volume, rotation and the Home button.

Connecting the iPad to an external keyboard

There are a number of external keyboards compatible with the iPad. Examples include Apple's Bluetooth keyboard which can connect via a docking station or by simply pairing the USB devices together.

It is possible to connect a Windows keyboard to the iPad using a Camera Connection Kit. The Camera Connection Kit comprises of an SD card reader slot for importing images from a memory card.

Camera connection kits are also available with an additional USB slot allowing external accessories such as a USB keyboard, USB microphone/headset to be plugged-in.

In Figure 56, a compact keyboard is fitted with a keyguard allowing someone with a mobility difficulty to type into Notes, Contacts, Pages and other text editing Apps such as Keynote.



Figure 55: The iPad Camera USB Connection Kit.

A disadvantage of using a Windows keyboard is that keyboard shortcuts are limited to basic character and word navigation, i.e. Shift + right arrow etc. to move between and through words. An advantage of using an Apple USB keyboard will provide greater use of the keyboard's features, such as shortcuts.



Figure 56: Example of a compact keyboard with keyguard using the USB Camera Connection Kit.

In Figure 57 the iPad is connected to a high contrast large key keyboard. The iPad has been set using the 'White on Black' setting in Accessibility in conjunction with the Pages App with the font size set to 72 point. This setup could facilitate some users with a visual impairment to access the iPad.

iPad Keyguards

One of the difficulties of fitting an overlay or keyguard to an iPad is the variety of grid/symbol arrangements particular to each App. This means that keyguards are limited in their use. However, there are companies such as Lasered Pics which sell keyguard overlays for Proloquo2go, GoTalkNow, Assistive Chat, iMean, and other popular AAC Apps: bit.ly/ipadcustomkeyguards or alternatively you can download a custom template to create your own: www.logan-technologies.co.uk/ipad-access-solutions.



Figure 57: Example of high contrast keyboard connected to the the iPad via the USB Camera Connection kit.

Using Switch Access with the iPad

While Assistive Touch can offer some help the iPad may require an external device known as a switch input system. Switch input can offer increased access to computers and other mobile devices to those who find it difficult or impossible to do so without additional hardware. Some Apps offer switch access, particularly for those users with disabilities who are unable to tap or swipe or interact with the iPad with gestures, for example, users who have mobility difficulties and/or require an alternative means of accessing an iPad.

If you would like to know more about switch input systems you can download guides from the CALL Scotland website: bit.ly/calls_switch_guides

Connecting a switch to an iPad

There are a number of ways in which a switch can be connected to an iPad. At the time of writing the most common way of doing this is by using a Bluetooth switch box which pairs the switch to the iPad. See 'Using the iPad with a Braille display' in Chapter 3 to find out more about pairing devices with Bluetooth.

Examples of Bluetooth switch devices include Therapy Box's Switchbox for Predictable (www.therapy-box.co.uk/) or RJ Cooper's Bluetooth Switch Interface and the Bluetooth Super-Switch (see www.rjcooper.com). Other examples include the Switch2Scan and Switch4Apps devices which provide switch and scanning access to the iPad: www.inclusive.co.uk/hardware/ipad.



Figure 58: Using switch access with an iPad.

While it is possible to connect a switch to an iPad remember that currently a switch access system will only work with those Apps which have switch capability. Otherwise, it is not yet possible to use switch access on native iPad Apps.

Styluses and Mouthsticks

As well as switches and head pointers, other hardware which is increasingly appearing is a range of styluses. A good example of a stylus is a T-bar stylus for those learners unable to hold or grip a standard pen shaped pointer. Examples of suppliers include: Etsy (www.etsy.com - and search for ShapeDad) who also provide mouthsticks.



Figure 59: Examples of styluses and mouthsticks.

For learners who have better motor control and don't require a T-bar stylus another option worth considering is the robust AluShape aluminium pencil shaped stylus with a hexagonal design and a rubber tip which glides across the screen: www.xtand.net/alupen.html.



Figure 60: The AluShape pencil for the iPad.

Closed Captioning

There are features contained in Settings which are not categorised as Accessibility but do offer additional benefits. For example, in Settings and Video 'Closed Captioning' is available for users who are deaf or have hearing impairment or prefer to read captions and listen when viewing a video. However, although this option is available it closed captions will only appear on those videos there were produced with captions at the outset.

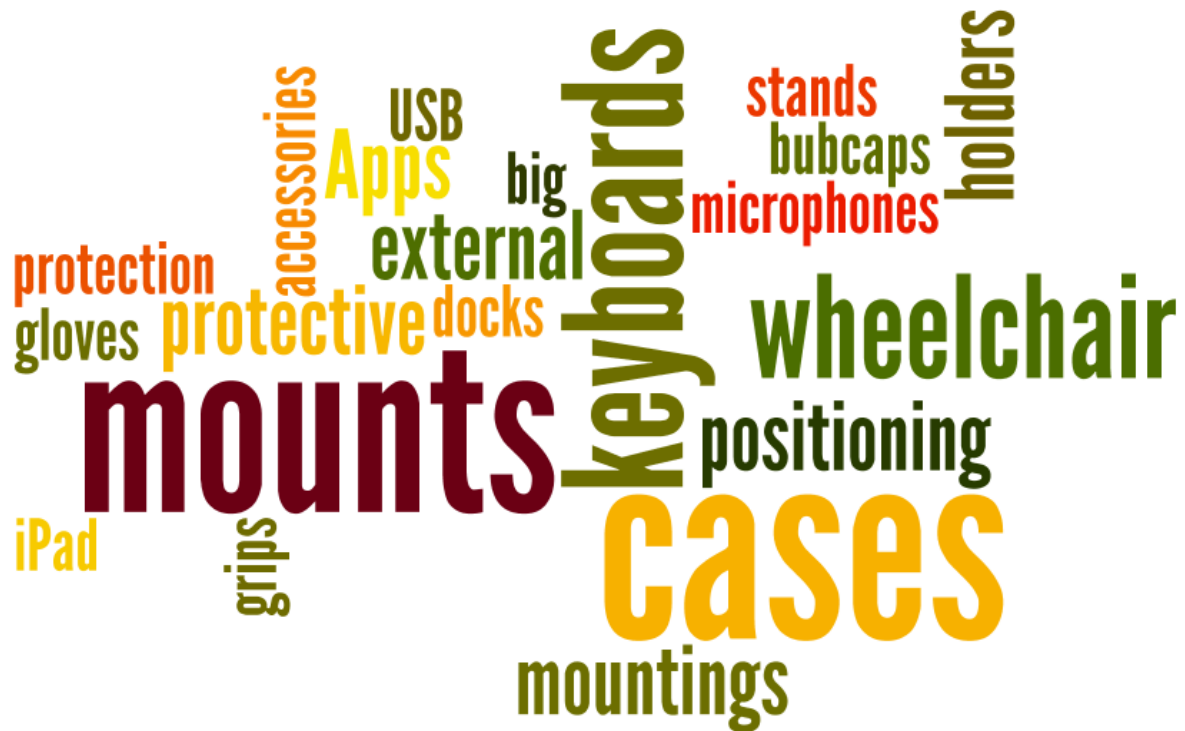
Multitasking Gestures

Multitasking gestures are a central feature in the way the iPad and Apps are used and manipulated. Multitasking gestures include using four or five fingers to 'Pinch' to quickly move to the Home Screen or to 'Swipe' to reveal the multitasking bar (which can be also accessed by double tapping the Home button). 'Swiping' left or right between Apps and screens is a quick way of moving between multiple Apps which are in use.

In some circumstances Multitasking Gestures could be problematic for learners with poor fine motor skills as screens and Apps could be accidentally swiped causing a distraction or even confusion as the App disappears and another 'inexplicably' slides in.

Multitasking Gestures can be turned on or off by selecting Settings, General and finally Multitasking Gestures.

Chapter 4: iPad Accessories



Introduction

As well as the growth in Apps, the range of accessories for iPads has also seen a significant expansion in the shape of protective cases, mounts, stands, pointers, switch interfaces, speakers, amplifiers, remote controllers, styluses and more.

For many learners with additional support needs the 'out of the box iPad' can be a barrier in itself, particularly for those with mobility difficulties or learners who require a wheelchair mount and/or switch access etc.

Chapter 3, Accessibility Options, provides a number of recommendations to enhance access to the iPad. This section expands on some of those ideas and introduces a range of accessories that can either

be used in isolation or in conjunction with other access devices.

Most of the suppliers are based in the UK although as this is an emerging market many suppliers are located in the U.S. Where possible we have provided generic web-based suppliers such as Amazon with a direct web link. In those cases where a generic link isn't possible we have provided a direct link to the supplier.

CALL Scotland does not have any association or interests with commercial suppliers and strives to provide impartial and unbiased information when sourcing accessories and other iPad related equipment. Prices are accurate at the time of writing.

Bubcaps

If working with children a useful accessory to start with is the Bubcap, a semi-rigid strip of foam/plastic to help prevent accidental or deliberate pressing of the Home button. The Bubcap can help deter learners from distracting themselves by exiting Apps (and opening other Apps) instead of focusing on specific tasks.

Bubcaps can be purchased from: <http://bubcap.com> or alternatively from the US Amazon Store (not currently available on UK Store) for approximately £5.00 per pack of 2. The Bubcap Pro is available from RJ Cooper (US): www.rjcooper.com/bubcap/index.html



Figure 61: Bubcaps fit over the Home Button.

Another supplier is Lasered Pics who offer a Home Strip Button which fits across the bottom of the iPad: bit.ly/homebuttonstrip.

Protective Cases

Protective cases for the iPad are available in a host of different materials, colours, styles and designs. The choice of protective case will ultimately depend on the needs of individual users. While some cases offer protection to the Home button others cases feature integrated sound amplification (which may require batteries), built-in stands, screen protection and a range colours. Protective cases are arranged according to price - cheapest to most expensive. Prices range from £17.50 to £148.00.

iBallz

This is an appealing 'protective' case - a case which isn't quite a case! iBallz features an innovative design with four 4 foam shock absorber balls at each corner (with 3 attached one can be used as an angled rest) everything is held together with an adjustable elastic cord.

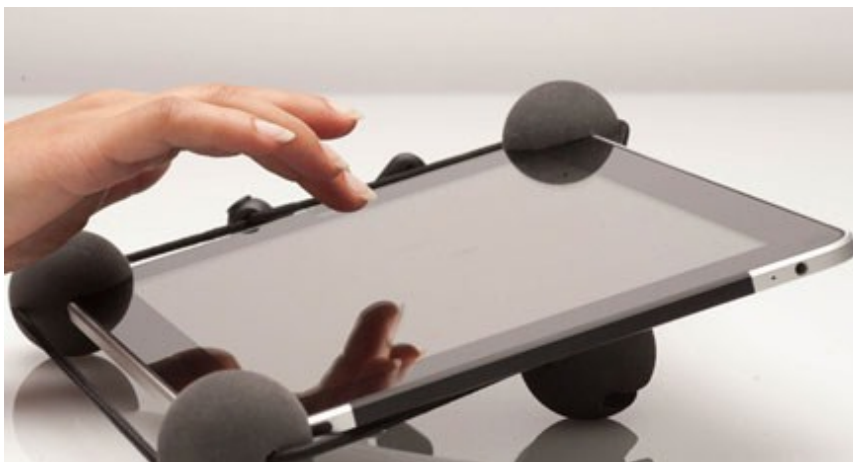


Figure 62: iBallz consists of 4 foam balls.

iBallz can be attached and removed quickly and easily. iBallz also offer a range of sleeves which provide added protection. A disadvantage of the iBallz is that the foam balls can obstruct the iPad's camera so you may need to position or unhook the top right hand foam ball away from the lens when taking photos.

At a glance

iPad Version	iPad 1 & 2 and New iPad
Material	4 foam balls with adjustable cord
Colours	Pink, Black, Grey and Green
Built-in Speaker	No
Built-in Stand	Use foam ball to provide angled rest
Home button protection	No
Website	http://iballz.info/
UK Supplier	Fangadget
Approximate cost	£17.50

Big Grips Frame

The Big Grips Frame case is made of soft rubber and is available in Green, Blue, Pink and Grey.

Although the Big Grips Frame can be seated in portrait or landscape view you must buy the additional stand as it is sold separately. The Big Grips Frame is one of the more robust and durable protective cases. It fits snugly but tightly around the iPad giving it maximum protection from daily knocks and falls.

The price is also very affordable and when fitted with a screen protector to avoid scratches, the Big Grips Frame should survive most classroom impacts.



Figure 63: Big Grips Frame.

At a glance

iPad Version	iPad 1, 2 & New iPad
Material	Soft lightweight rubber
Colours	Green, Blue, Pink and Grey
Built-in Speaker	No
Built-in Stand	Stand available separately
Home button protection	No
Website	www.inclusive.co.uk
UK supplier	Inclusive Technology
Approximate cost	£29.00

OtterBox Reflex

The OtterBox range offers cases for both the first generation iPad, iPad 2 and the New iPad. The OtterBox Reflex series provides protection for the front and back of the device as well as touch screen shield that doubles as a viewing/typing stand.

The OtterBox offers four different series with varying levels of protection for different devices: Defender, Reflex, Commuter and Impact. The website also features a video overview of each of the protective cases in action.

A disadvantage of the Otterbox is that it is awkward to fit the case to the iPad and may take several attempts before achieving the correct fitting.



Figure 64: The Otterbox Reflex.

At a glance

iPad Version	iPad 1, 2 and New iPad
Material	Soft rubber casing - washable and shock absorbent
Colours	Multiple colours
Built-in Speaker	No
Built-in Stand	Yes - landscape only
Home button protection	No
Website	www.otterbox.com/
UK supplier	Avant Garde Distribution
Approximate cost	£40.00

Gripcase

The Gripcase claims to be the ultimate iPad case for portability, handling and protection - and judging from the video clip which demonstrates the Gripcase on the home page, it does look impressive (although we haven't had an opportunity to test one). On the downside there doesn't seem to be a UK supplier (at the time of writing) but that may change as demand increases.

The Gripcase is currently available for the iPad 1 and 2 and the New iPad and is available in Blue, Red, Green, Purple and Black and features a soft rubber casing. There is no built-in stand. The Gripcase does not provide protection to the Home button.



Figure 65: The Gripcase for the iPad.

At a glance

iPad Version	iPad 1 & 2
Material	Soft rubber casing - washable and shock absorbent
Colours	Multiple colours
Built-in Speaker	No
Built-in Stand	No
Home button protection	No
Website	www.gripcase-usa.com
Approximate cost	£43.00 including US shipping fees

Griffin Survivor

The Griffin Survivor is Griffin's main case for the iPad 2 and New iPad although Griffin also offers a Screen Care Kit for the original iPad. The Griffin Survivor is designed for 'extreme conditions' and will protect the iPad against sand, rain, humidity, shock and other environmental factors.



Figure 66: The Griffin Survivor.

At a glance

iPad Version	iPad 2 and New iPad
Material	Soft rubber casing - washable and shock absorbent
Colours	Multiple colours
Built-in Speaker	No
Built-in Stand	No
Home button protection	No
Website	www.griffintechnology.com/ipad
UK supplier	Amazon
Approximate cost	£35.00 - £45.00

Speck iPad Guy

The Speck iPad Guy is currently available in Green, Orange and Blue and features a soft rubber casing. The Speck iPad Guy adds a bit of fun, colour and provides some handles to hold although they are rather flimsy.

The 'arm' handles are very thin and could wear or even be pulled off if used robustly over a period of time.



Figure 67: Speck Guy for the iPad.

Although the Speck iPad Guy has a base/stand it is unsupported and easily knocked over. One advantage of the Speck iPad Guy is

that it has deep protective slots; useful for protecting the external buttons (on/off, mute) from wandering fingers.

At a glance

iPad Version	iPad 1 & 2 and New iPad
Material	Soft rubber casing
Colours	Currently Green, Orange and Blue
Built-in Speaker	No
Built-in Stand	Yes - built-in base but only in landscape mode
Home button protection	No
Website	www.speckproducts.com/iguy-for-ipad-2.html
Supplier	Puremac: http://www.puremac.de
Approximate cost	£46.00

iMainGo XP

The iMainGo XP is a dual purpose case: a protective case and sound/music amplification which is very loud. The iMainGo XP could be beneficial for amplifying synthetic or audio messages in open or noisy environments for communication aid users.



Figure 68: The iMainGo XP with integrated speakers.

At a glance

iPad Version	iPad 1 & 2
Material	Hard plastic casing
Colours	Only in black
Built-in Speaker	Yes - sound amplification
Built-in Stand	Yes - landscape only
Home button protection	Only when case is closed
Website	http://imaingo.com/imaingo-xp
UK supplier	eOutlet
Approximate cost	£99.00

iAdapter

As well as being a protective case the iAdapter is also an amplifier with dual speakers that can be heard in a range of environments and settings.

The iAdapter comes with its own separate rechargeable battery which has a short life span and cuts the iPad sound as the battery runs down. Other features include protection for the Home button an option for a carrying strap and a stand for viewing in portrait view.

The casing is constructed of plastic with rubber corners and offers protection from the toughest impacts.



Figure 69: The iAdapter

At a glance

iPad Version	iPad 1,2 and New iPad
Material	Combination of plastic and rubber
Colours	Black
Built-in Speaker	Yes - built in rechargeable batteries
Built-in Stand	Yes - landscape only
Home button protection	Yes - plastic slider
Website	http://amdi.net/index.php
UK Supplier(s)	Inclusive Technology/Therapy-Box/SmartboxAT
Approximate cost	£148.00

iPad External Keyboards

With the release of iOS 5 some new features were added to the iPad's on-screen keyboard, such as splitting the keyboard in two, docking and undocking. Despite these new features the keyboard can be tricky and sometimes uncomfortable to use. Moreover, some learners find the default keyboard difficult or impossible to use.

In Chapter 3, Accessibility, we explained how you can add an external keyboard by using a Camera Connection Kit. While this is an inexpensive option it provides limited keyboard functionality compared to an Apple compatible keyboard.

iKeyboard

The iKeyboard is a thin membrane with gel-like buttons which attaches to the iPad, similar to a keyguard.



Figure 70: iKeyboard for the iPad.

As well as being lightweight and thin, the iKeyboard could help to avoid mistaken keystrokes as the user must physically press each key. Keys are separated by a thin and supple plastic grid.

The iKeyboard will only work with the default iPad on-screen keyboard and may not be suitable or compatible with other on-screen keyboards which are increasingly part of AAC Apps. Also, the iKeyboard will only work with text input Apps such as Notes, Pages, email and Internet pages where text input is possible. The iKeyboard is not a dedicated keyguard. To find out more visit the iKeyboard website: www.ikeyboard.com

TouchFire

The TouchFire keyboard is a transparent keyboard which sticks to the iPad using four small magnets positioned at each corner of the keyboard.

Although similar to the iKeyboard the TouchFire is lighter and more flexible, i.e., it can be peeled back and rolled when not in use.



Figure 71: TouchFire Keyboard for the iPad.

For more information visit the TouchFire 'How it works' website: www.touchfire.com/how-it-works

Flexible Bluetooth Mini Keyboard

In many ways the Flexible Bluetooth Mini Keyboard is reminiscent of the soft plastic and washable 'indestructible' keyboard which proved beneficial for learners with limited control of saliva.

Similar to the indestructible keyboard, the Flexible Mini Keyboard is waterproof and therefore washable.



Figure 72: The Flexible Mini Keyboard.

The Flexible Mini Keyboard uses Bluetooth to connect to the iPad and has a built-in rechargeable battery. The keyboard is compatible with iOS 4 and iOS 5 (5.1.1).

For more details on the Flexible Mini Keyboard visit the iPadxs website:

www.ipadxs.co.uk

iDock Keyguard for Apple iPad Docking Keyboard

The iPad Docking keyboard combines a dock for charging the iPad which can be used with a standard keyboard and keyguard, which would benefit learners with mobility difficulties such as limited hand coordination.

The keyboard also includes special keys that activate iPad features.

www.maxesssite.co.uk/



Figure 73: The iDock Keyguard.

Microphones and Recording

Many Apps feature audio, either for recording notes, creating social stories or even voice recognition (speech-to-text). The iPad's internal microphone is adequate for most audio recordings. But if you are looking for a microphone to filter out background noise or something which provides a more rounded sound there are numerous external microphones available to suit almost every need ranging from very affordable to more expensive professional microphones. These can be plugged directly in to the iPad or via a Camera Connection Kit (see Chapter 3: Accessibility Options).

Most USB microphones will work via the USB Camera Connection Kit although there are some which require to be powered from the device. If the iPad is unable to provide the necessary power then the USB microphone will not be compatible. Always check with the manufacturer to be on the safe side.

Microphone Accessories

Dedicated iPad microphones plug directly into the iPad's power connector. One example is APOGEE's hand-held Micro Studio Mic sold by the MicStore: www.themicstore.com for approximately £145.00.

The APOGEE mic provides studio quality recording and could be used for creating audio tracks within Garageband. Another option is the iRig Mic which allows you to use a quality hand-held condenser microphone for the iPad.

The iRig series also supplies adaptors to plug-in guitars, effects and other relevant musical instruments. www.ikmultimedia.com/Main.html?ios/index.php



Figure 74: Connect a USB microphone.



Figure 75: The iRig microphone for quality recording.

If you intend to use a voice recognition App such as Dragon Dictation with a headphone/microphone set then it is worth considering purchasing the iPad Headset Microphone Adapter from Speech Recognition Solutions (providing a dual jack for both a microphone and headset).

http://speechrecsolutions.com/iPad_audio.html



Figure 76: Smart Phone Headset Microphone Adapter

Conductive and Capacitive Access

E-Tip Glove

The E-Tip Glove is a specially designed glove for users with poor touch or who are unable to use the iPad because of a skin condition. The iPad has a capacitive touchscreen which requires an electrostatic field between the screen and the hand. The E-Tip gloves features a conductive tip made of silver metallized nylon on the thumb and index finger that touchscreens are responsive to.

The iPad requires a range of finger gestures particularly one-finger touch which controls many of the iPad's features, such as scrolling. Normal gloves are not suitable for this process.

The E-Tip Glove benefits users who cannot easily isolate a single finger and provides a 'hand rest' on the iPad as only the metal tips react with the iPad's screen.

The gloves are available from Therapy Box www.therapy-box.co.uk and from the suppliers- North Face: <http://uk.thenorthface.com/>

Alternatives to the E-Tip Glove (woollen gloves with conductive thread) can be found on Amazon from as little as £5.00. Another source is IKEA who developed the Beröra (meaning to touch) conductive gloves kit, a DIY sewing kit with a special conductive thread - IKEA's alternative to the E-Tip glove. A cheap DIY option can be found on the 'Instructables' website: http://bit.ly/glove_ipad.



Figure 77: E-Tip Glove.

iPad Mounts and Positioning

As popularity for the iPad increase the demand for appropriate iPad mounts has also grown.

There is now a wide range of mounts, including wheelchair mounts, which allow an iPad to be safely and securely attached in many configurable positions to allow ease of access for different users.

While the traditional use of clamps and mounting plates (often seen on AAC devices) are still widely available, iPads can be mounted and fixed on different surfaces, including tables, chairs, beds, walls; with brackets, suction devices and vacuum cups. Additionally iPads can even be attached to the wrist with an elasticated wrist band.



Figure78: iPads can be mounted to a wheelchair.

Mounts & More Ltd

With over 15 years of experience the UK based Mounts and More Ltd, recently updated their product range with a new selection of iPad mounts, holders, mounting plates and quick release base plates.

www.aacmounts.com

Dakin Technology

Best known for providing wheelchair mounts and other solutions for mobility problems Dakin Technology have recently released a dual stand for the iPad and keyboard which can be attached to a wheelchair. Dakin Technology also provides assessments and a fitting service.

www.smartwheelchaircontrols.co.uk

BeyondAdaptive

As well as supplying a large range of wheelchair mounting solutions, BeyondAdaptive also supply iPad wheelchair mounts and keyguards. A recent addition to their collection is a basic, hinged keyguard for the iPad but a future plan is that you can build your own mount and keyguard - could be useful for those who have difficulties with fine motor skills and find it difficult to use a touch screen.

www.beyondadaptive.com

CJ Mounting

CJ Mounting feature a wide variety of mounts for iPads, laptops and other tablet devices. Mounts include sturdy floor supports/mounts, wheelchair and smart-wheelchair mounts with a focus on positioning the iPad to meet different needs.

www.cjtmounting.com

DaeSSy Mounting Systems

A U.S. based company with a long history of making quality stands and mounts. The iPad holder is a new addition to DaeSSY range and offers some useful features such as quick release, easy switching between portrait and landscape and a secure attachment.

<http://bit.ly/daessymounts>

Prop

For users who are unable to hold an iPad then the iProp could be a useful solution. The iProp is compatible with both the original iPad and second generation; it features a long goose neck extension and can rotate a full 360 degrees. The iProp is also fitted with a heavy V-shaped base.

www.iprop.com

Mount n Mover

A US based company which specialises in a range of wheelchair mounting and positioning systems. They also provide some useful video overviews and case studies as well as some helpful 'How to' videos. Some of their products are available from Toby Churchill which in the UK.

www.mountnmover.com or www.toby-churchill.com

Ram Mounts

Ram Mounts provide specialist parts for the car industry but they also offer a range of compatible mounts for Apple cradles - a good range of swivel heads, sockets so you can set up and adjust the iPad just the way you need it.

http://bit.ly/ram_mounts

RJ Cooper

RJ Cooper has almost everything there is to attach or clamp to an iPad.

If you're looking for iPad stands, pointing devices, switch interfaces, mounts, cases, speakers, remote controllers.

www.rjcooper.com/

iPad Holders

iPad holders consist of either a plastic or leather case fitted with a strap or elasticated hand strap on the rear of the case. The iPad can be firmly and securely held in the hand without the fear of accidentally dropping it. Some iPad holders have a 360 degrees rotating mount so the iPad can be held in landscape and portrait mode.

A search for 'iPad Holder' will give a selection of results to choose from with prices starting from around £20.00.

<http://amzn.to/ipadhandholder>



Figure 79: iPad holders can be strapped to the hand.

Wallee

The Wallee range of products has more of a focus on suction and vacuum style of mounts. Nevertheless there are some useful ideas on how iPads can be attached to different surfaces. The Hand Strap is one innovative idea which consists of a strap attached to the back of the iPad case.

You simply place your hand through the strap and then adjust for maximum comfort, support and security. One advantage of the Hand Strap is it could offer greater freedom of movement to pupils in class, without worrying that the device could be dropped. Teachers can also use it to take the iPad close up to a pupil to illustrate an App or another item on the screen.

www.thewallee.com



Figure 80: The Wallee Hand Strap.

[illegible]

As the iPad continuously develops and the range of Apps increases both in numbers and diversity, many users including educators are using this medium in creative and innovative ways, often developing new valuable resources. With new Apps and resources being released on a daily basis it can be impossible to keep track of what is happening in such a fast ever changing environment.

the distinguishing features of each App. Other sites provide searchable databases which can be searched by device, type of App (photo story, word bank, word prediction etc.) and by price.

New developments can be found using the 'Blogs, Tweets, Wikis, Case Studies and Research' section which provides links to those 'in the know'. There are also links to popular, enthusiastic and dedicated 'tweeters' and bloggers as well as many other social networks which provide current, informative and specialist knowledge, including valuable research sites.

If you are considering implementing iPads in your organisation, the section ‘Purchasing Apps and Classroom Management’ offers advice from those who have experienced the trials and tribulations of setting up school-wide implementations.

Finding Apps to support learning and teaching

With so many Apps available for the iPad, it would be impossible to search, find and evaluate the best and most suitable Apps to suit different needs. Below are some useful time-cutting ways to help you find the appropriate Apps without the need to spend hours hunting through the App Store.

KinderTown

The KinderTown App is essentially a database App for searching educational Apps, including Apps that help with speech and language development. As well as being free to download, you can also search for Apps by subject and each one has been reviewed by an educator.

www.kindertown.com

AppsForAAC

Finding an AAC App to meet individual needs can be time consuming. Luckily the 'AppsForAAC' site provides a detailed informative guide which is organised by category, speech system and symbol system used. The 'Full List' section provides an easy-to-use search facility so you can quickly find the App you're looking for without scrolling through pages of Apps.

<http://www.appsforaac.net>

Spectronics: iPhone/iPad Apps for AAC

The Spectronics site is an extremely comprehensive and popular resource. Compiled by Jane Farrall this site features AAC Apps which are categorised into 3 areas: Symbols/Pictures only Apps, Symbols and Text-to-Speech Apps and Text Based Apps. Each of the Apps listed is provided with a description, brief overview of features, access options and a rating.

<http://bit.ly/spectronicsaac>

Apps for Children with Special Needs

The Apps for Children with Special Needs features a range of appropriate and useful resources to meet different types of abilities and learning needs including examples of 'how to' video clips for around 120 Apps.

<http://a4cwsn.com>

SpeechTechies

SpeechTechies is a collaborative resource document (Google Docs) which comprises a comprehensive list of mobile Apps for the iPad and Android devices.

<http://bit.ly/lfA5Nq>

Speaking of Speech

Speaking of Speech is a huge database of AAC Apps which can be searched by keywords or by category.

<http://members.boardhost.com/speakingofapps/>

SpeechPathology Apps

Although a U.S. resource the site provides Apps which have been researched and tested by users including speech and language therapists. SpeechPathology Apps provides a quick way of finding Apps which are categorised into the following areas: Early Concept Apps, Interactive Book Apps, Reading Apps, Speech & Language Apps, Parenting Apps for Mums & Dads and Special Education Apps.

www.speechpathologyapps.com

Apps in Education

Most of us, particularly teachers, just don't have time to spend time browsing through the multitude of Apps. This site helps by breaking down Apps into categories and key learning areas.

<http://appsineducation.blogspot.com>

Eric Sailers

Eric Sailers is a speech-language pathologist who is probably best known for creating his own Apps: ArtikPix, PhonoPix, Percentally and the social story App, StoryPals. Eric Sailers has also written extensively on ACC Apps including a comprehensive list of his own recommended Apps:

<http://scr.bi/ericsailersapps> and his blog is here: <http://ericsailers.com>

SEN/ICT

This site is comprehensive resource, clearly laid out and easy to navigate to quickly find information. Some of the Apps include Apps for AAC, Appy Black Friday and Apps for children with additional support needs. A major benefit of this site is that you can review the resources before visiting the actual site - a great time saver.

www.senict.com/resources

Special Education Apps on iTunes

You will need to have iTunes installed to view this resource, but this is a one-stop-shop for a range of additional support Apps, including Apps for communication, hearing, language development, literacy and learning, organisation, and life skills. Prices range from free to over £100.00.

<http://bit.ly/tG3NBs>

iPod Touch and iPad Resources

This resource features the LiveBinders interface (a virtual version of a Filofax or pull out cabinet with a series of tabs/labels) and contains a wealth of resources. Resources include AAC and general learning and teaching Apps. It is also a worthwhile site to find information about educational issues connected to the use of iPads in education.

http://bit.ly/ipad_binder

App Deals

App Deals is an App which gives you instant access to Apps which are discounted for a limited-time only or for free. You can personalise the App interface to display the ‘streams’ that you’re most interested in, e.g. education, productivity, photo and video, etc. App Deals allows you to see what deals are available in each category.

http://bit.ly/dailyapp_deals

Blogs, Tweets, Wikis, Case Studies and Research

The use of social media sites such as Twitter and Blogs offers a rich variety of information and resources on all things related to the iPad and Apps. This section highlights some the most innovative, engaging and up-to-date blogs, tweets and research.

APPSolute Fit: Stages Framework

The ‘Stages Framework and Apps Support’ by Madalaine Pugliese, is a seven stage framework of learning and language development based on the theories of Piaget’s Cognitive Development and Chomsky’s Milestones and Language Development.

The Framework moves through different stages of learning and development from ‘Stage One - Cause and Effect’ through to ‘Stage Four Early Concepts’ and finally ‘Stages Six and Seven - Functional Learning.

At each stage Apps have been identified and matched to determine skills and milestones. Each stage offers advice ‘About the Learner’ and ‘Features to consider’ when deciding on what Apps should be introduced at each milestone. With each corresponding App a rationale and description is also provided.

<http://bit.ly/appsoludefit>

Rubric and Evaluating Apps for Teaching and Learning

Tony Vincent has developed a rubric to evaluate Apps. According to Vincent some or all of the following features should be present within an App: customisation, feedback, thinking skills, engagement and sharing. The site also provides a Checklist which can be downloaded and used for free.

<http://bit.ly/evaluateapps>

Quality Indicators for Assistive Technology Services

Developed by Kelly Fonner and Scott Marfilus for the research site Closing the Gap, ‘Sorting AAC Apps’ includes a checklist of features of AAC applications for iPads/iPods/iPhones and Androids. You can download Sorting AAC Apps here:

bit.ly/sorting_aac_apps

Fraser Speirs

Fraser Speirs is a teacher at the Cedars School of Excellence, a mainstream independent school in Inverclyde who has introduced iPads for all pupils.

Fraser blogs regularly on the project outlining recommended Apps, management problems and even explores issues related to using an iPad with SAQ Adapted Digital Exam papers.

<http://speirs.org>

iPads for Learning

Developed by the Australian Victorian Government, this site provides numerous useful resources including case studies, 21 Steps to iPad success, Classroom ideas and more. The 'Nuts and Bolt's section is particularly good with hints and tips to managing iPads and Apps in a school setting.

www.ipadsforeducation.vic.edu.au

The App Academy

The App Academy provides reviews of Apps which are linked to free online training resources. As well as having an extensive list, one of the benefits of The App Academy is the comprehensive list of video tutorials and online training. There are step-by-step tutorials on Apps such as Picatello, Verbally and more, including useful hints and tips on making the most from your iPad.

www.theappacademy.org

Meg Wilson @ impossibilities

Meg Wilson's Twitter page provides a comprehensive resource for all things Apps which are geared towards learning and teaching. Recent resources include Apps to support spelling, art, music and regular updates on relevant issues to iPads and Apps.

<https://twitter.com/%21/iPodsibilities>

Mobile Learning Special Needs

The Mobile Learning Special Needs site features some useful resources including an interesting AAC Apps video presentation. The site also hosts an interactive forum with discussions based around issues such as iPads and autism.

<http://bit.ly/tkYIL5>

Lang witches Blog

The Lang witches blog is a general learning and teaching resource which provides some useful insights into implementing iPads and Apps into the school and class environment. The 21st Century Learning section, which focuses on using iPads with learners with poor fluency, is particularly useful. A recent addition to the blog is the iPad Apps and Blooms Taxonomy with Apps accordingly categorised to the areas of 'Creating', 'Evaluating' etc.

<http://langwitches.org/blog>

The Website of Luis Perez

Luis Perez provides a comprehensive overview of the iPad's built-in accessibility options (see Chapter 3: Accessibility Options). With text-to-speech, magnification and more this site provides a useful introduction to tools which come readily available on the iOS device.

http://bit.ly/louisperez_accessoptions

60 Minutes

60 Minutes is part of the US CBS News Corporation and provides short films which can be viewed online. This specific video case study explores how iPads and Apps are being used with Autistic children in the class and at home to support communication and learning.

bit.ly/autism_ipads_in_class

#iear

#iear is another prolific and enthusiastic Tweeter but this time with loads of iPad resources and tutorials. A recent post explored the pitfalls of deploying and managing iPads in classrooms.

http://bit.ly/twitter_iear

Unlocking Literacy with the iPad

"It keeps me interested and motivated and I don't zone out like I used to", states a student who is finding the iPad beneficial to his learning. One teacher provides data to suggest that using iPads in teaching and learning is really raising standards among students.

bit.ly/unlocking_literacy_ipads

iPads in Education

iPads in Education is a Ning social networking site which is full of useful information, discussion groups, blogs and numerous hints and tips. There is also a lively discussion forum which is available to all members. iPads in Education offers impartial advice, mostly based on the experience of others, on preparing your school for an iPad implementation and managing content and Apps. iPads in Education is free to join.

<http://ipadeducators.ning.com>

Robert Scoble

In this blog post Robert Scoble explains how the iPad is helping his son to communicate. Using Google + (Google's answer to Facebook) Robert is attempting to build a 'Circle of Friends' - a circle of people interested in autism and iPad Apps. The site also features a thought provoking video diary.

bit.ly/robert_scoble

Purchasing Apps and Classroom Management

Managing iPads and Apps in a school and classroom environment is covered in more detail in Chapter 7. Nevertheless managing iPads and Apps can pose many issues and problems, particularly if you're planning on implementing iPads for the first time. Why go through the trials and tribulations yourself when you can learn from the experiences of others? This section provides an overview of helpful ideas and some hints and tips to get you on the right track.

App Store Volume Purchase Program

At the time of writing the 'App Store Volume Purchase Program' is currently only available to businesses in the UK. A similar scheme for education does exist but only in the US. However, this is one site to keep a look out for. Hopefully, in the near future, a Volume Purchase Programme in the UK will be available. In the meantime you'll need to rely on credit cards and/or vouchers to download and distribute Apps.

www.apple.com/itunes/education/faq

Learning in Hand: Classroom iPod touches & iPads: Dos and Don'ts

Tony Vincent's 'dos and don'ts' provides an easy-to-follow yet detailed guide to making a successful iPad implementation. The site includes basic tips such as giving each iPad a logical name, organising Apps, security issues and even helpful advice on misuse and appropriate policies.

<http://learninginhand.com/do>

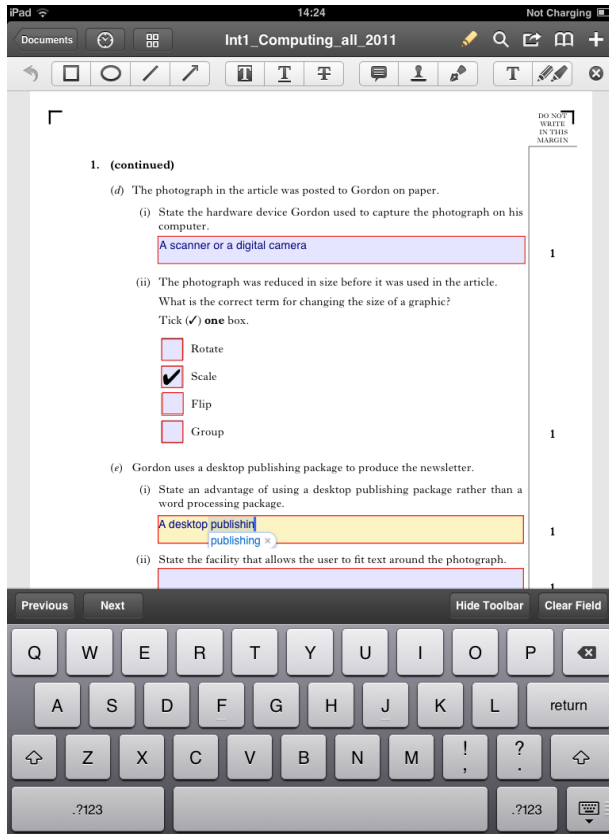


Figure 82: Typing and answering tick boxes in a Intermediate 1 Computing Paper

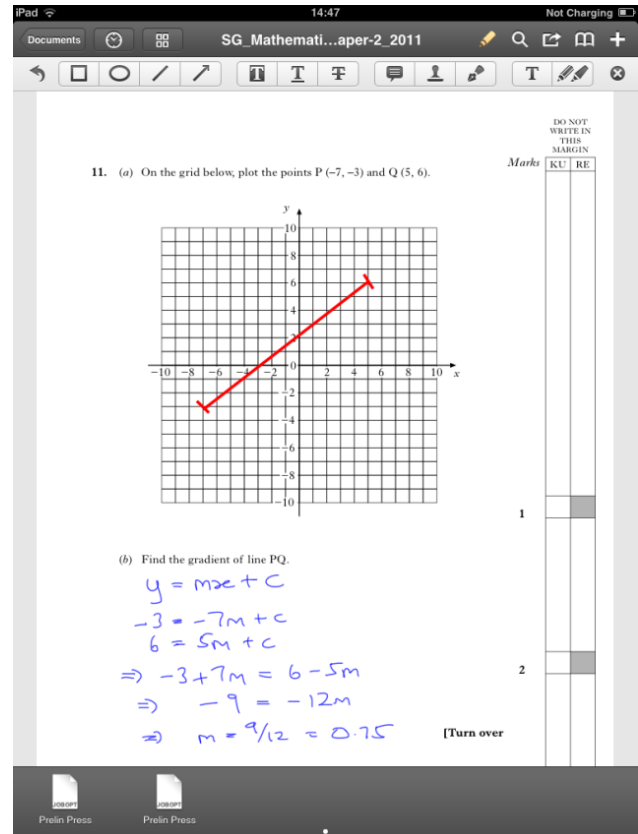


Figure 83: Drawing and writing equations with PDF Expert

The digital papers work very well for question and answer exam papers which require short text answers, but not all curriculum subjects suit the digital format - particularly maths and science where the learner has to produce equations and formulae.

However with a stylus, the iPad and PDF Expert is a good combination for drawing diagrams, graphs and maths and science expressions on the digital paper. In many cases students will write their drawings and equations on a hard copy of the paper.

Using iPads in assessments and exams raises questions and issues particularly in relation to security.

For obvious reasons, it is important to ensure that candidates who use technology in assessments and examinations cannot access files stored on the device or on the internet or on other electronic devices that could connect to the iPad. In Scotland, SQA state that it is the school's responsibility to ensure that candidates cannot access any electronic sources or files via the internet or on USB drives or mobile devices.

In addition, any tools that may help the pupil, such as spellcheckers, word prediction or the iPad Auto-correction must be turned off, unless you have permission from SQA for the student to use them.

Making the iPad secure in assessments

It is therefore important to ensure that any data files are deleted and that the candidate cannot access Wi-Fi (or any wireless or 3G hotspots), Bluetooth, iMessage, Mail, iTunes, DropBox etc. You can either adapt a learner's own device, or use a 'blank' iPad which has been set up specifically for the exam.

The iPad has a number of options under the 'Restrictions' (which can be found in Settings) tool which allow certain Apps and other elements of the iPad to be securely switched off and protected with a password.



Figure 84: Enabling and disabling Restrictions.

Below is a quick guide to restricting the iPad for use in assessments in and exams. It should be pointed out that this is not a bullet-proof solution and each school or examination centre will need to explore and implement their individual solution.

Quick Guide to iPads in exams

1. Back up the iPad (see Appendix 1: iPad Management using iTunes: some useful tips for more details).
2. Delete all the Apps on the iPad that are not required in the assessment. This leaves the Apps required for the assessment (e.g. Pages, your chosen PDF App, i.e. PDF Expert etc.) plus the built-in Apps on the device.
3. Delete all photos, music files, videos, contacts, reminders and other documents. Clear the browser history.

4. Go into **Settings > Mail, Contacts, Calendars** and delete all the accounts. This will prevent access to Mail, Contacts and Calendar.
5. If the iPad is a 3G model remove the 3G SIM card.
6. Prevent access to the school Wi-Fi using the school network settings. Check that there are no other accessible Wi-Fi internet access points available.
7. Turn off Bluetooth: **Settings > General > Bluetooth > Off**.
8. Now you need to prevent access to the built-in Apps, which are:
 - a. Newsstand
 - b. iMessages
 - c. Mail
 - d. Safari
 - e. iBooks
 - f. FaceTime
 - g. PhotoBooth
 - h. Reminders
 - i. Photos
 - j. Music
 - k. Videos
9. Go to **Settings > General > Restrictions**.
 - a. Click on **Enable Restrictions** and enter a passcode.
 - b. **Allow:**
 - i. Turn off any Apps that you don't want the candidate to be able to access (i.e. all of them). This will remove the following Apps from the iPad screen: Safari, YouTube, Camera, FaceTime, iTunes, Ping and installing and deleting Apps.
 - ii. Note this still leaves Mail, iMessage, Calendar and Contacts that the pupil could access the internet to find previously hidden answers, which is why you need to prevent access to Wi-Fi or the internet.
 - c. **Allow Changes:**
 - i. In **Location**, **Don't Allow Changes** (this stops the iPad connecting to Wi-Fi hotspots or devices).
 - ii. In **Accounts**, **Don't Allow Changes** (this prevents anyone adding a new mail or other account).

10. Turn off Auto-Correction and spellchecking (unless you have permission to use them):

- a. **Settings > General > Keyboard > Turn off Auto-Correction and Check Spelling.**
- b. (Note that the candidate can easily turn them back on - we haven't found a way to prevent this.)

11. You should now have an iPad with:

- a. No stored files, emails, photos, videos, sound recordings or other documents.
- b. Only the Apps which are required for the assessment;
- c. No spellchecking or auto-correct.
- d. No access to the internet or Wi-Fi.

You should now have an iPad which is secure.

You can make these adjustments to each individual iPad but a much better solution, if you have several devices to set up, is to use the Apple Configurator or iPhone Configuration Utility.

These are tools for creating and installing profiles with the restrictions above on your 'exam iPads'. See www.apple.com/iphone/business/resources/.

Fraser Speirs, who works at Cedar School in Greenock, has a clear and helpful blog on how he set up some iPads for use in exams: iPad Exams Part 1: bit.ly/fraser_speirs_blog and iPad Exams Part 2: http://bit.ly/fraser_speirs_blog2.

Attack Tree

Fraser Speirs' 'Attack Tree' is a helpful diagram that covers a range of possible cheating scenarios to prevent 'coordinated attacks' from inside and out with the school.

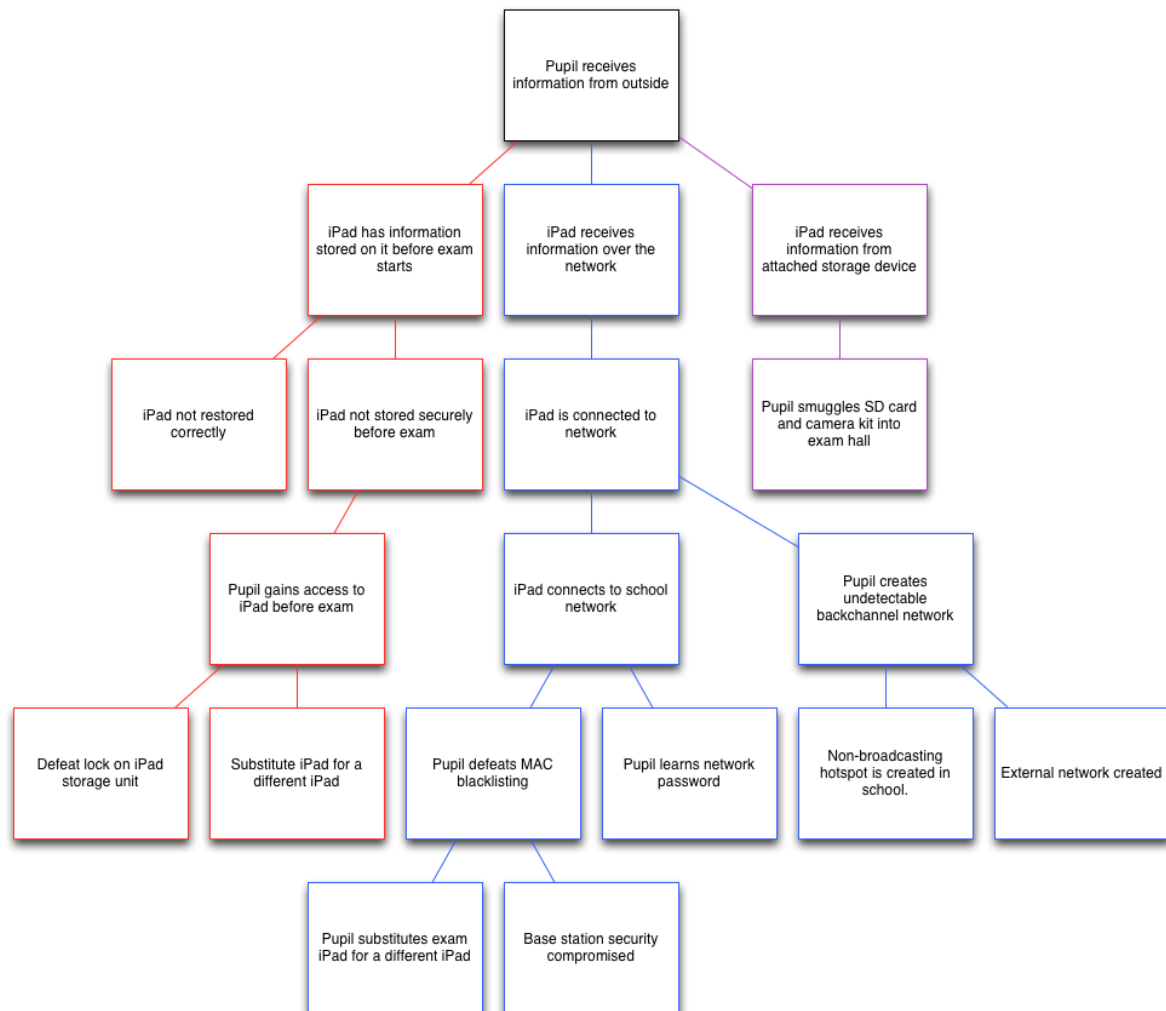


Figure 85: Fraser Speirs Attack Tree (thanks to Fraser Speirs for permission to use his diagram).

Chapter 7: Managing and Implementing the iPad



Introduction

An aspect of the iPad is to ensure that data such as photographs and videos, music, notes, documents, Apps and other content is stored safely and backed-up securely. This is particularly vital for you as an individual user and where large numbers of iPads are being implemented and managed in larger numbers such as a school.

This Chapter will explore management and implementation issues surrounding iTunes and iPads. iTunes can be best described as an App or computer program which is used for playing, downloading, saving, and organising digital music and video files on desktop or laptop computers and for synchronising content to the iPad, whether that be for individual iPads or larger numbers. iTunes is the primary method for transferring purchases from the iTunes or Apps

Store between your iPad and computer.

Prior to the release of iOS 5 synchronising content meant that the iPad and computer had to be connected using the iPad's connection/charger cable. Since the release of iOS 5 Apple introduced the iCloud (www.icloud.com), a free wireless service which provides 5 gigabytes of 'cloud' storage space.

For those users who have access to Wi-Fi it means that there is no manual transferring of files or data as everything can be set to synchronise and backup wirelessly and automatically. However, regardless of whether you synchronise data manually or wireless you will need at some point to create an iTunes account.

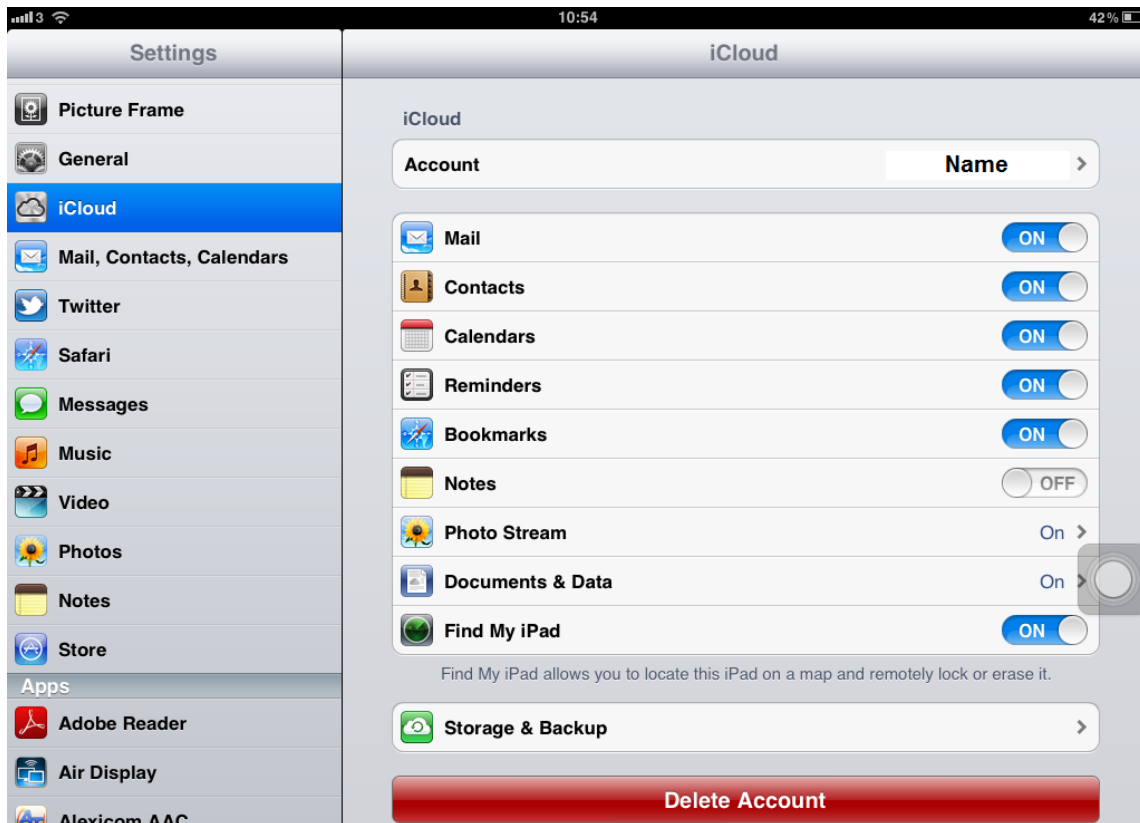


Figure 86: iCloud options in Settings

The following section explores how to set up and manage an iTunes account for an individual user. If you are considering implementing and managing a larger number of iPads, for a class or across the school, please continue to the School Implementation and Management Section.

See Appendix 1: iPad Management using iTunes: some useful tips, for more detailed and comprehensive information.

Getting started with your iPad and iTunes

When you start your iPad for the first time you're automatically prompted to connect to iTunes.

The process of setting-up the iPad in iTunes for the first time is straightforward, but if you are unsure how to do this follow the steps below.

1. Registering your iPad

During the first stage of setting up your iPad you'll see a welcome 'Let's get started' screen which will guide you through the steps of registering your iPad.

This process also includes agreeing to Apple's terms and conditions and it also serves as a way of protecting yourself too - so that Apple will have a record of your device - you'll also be prompted to complete the iPad Software Licence Agreement.



Figure 87: Getting started with iTunes.

2. Setting up an iTunes account

The second stage takes you through the process of setting up an account with the iTunes Store, again this is straight forward but just in case you're unsure how to do this then you can watch this step-by-step video guide to get you started:

bit.ly/itunes_account

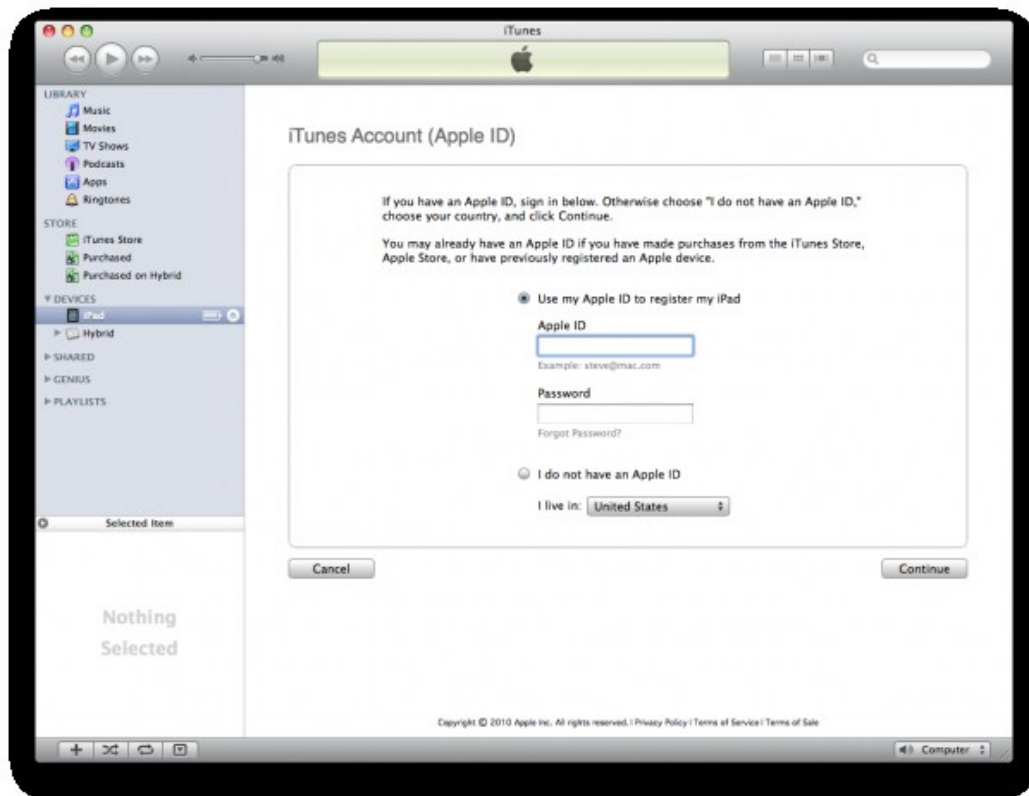


Figure 88: Setting up an iTunes Account.

In Figure 88 you can see that the iPad's default setting is 'I live in 'United States' - remember to change this to the United Kingdom. If you already have an iTunes account, then complete the 'Use my Apple ID to register my iPad' fields. If not, then select the 'I do not have an Apple ID'. This option will prompt you to create an account. If you want to use this option you will need to have a credit card ready!

Do I need a credit card?

If you don't have a credit card there are other options such as PayPal. But what if you don't have a credit card or a PayPal account?

A credit card is not always required to set up your iPad. In order to create an account without a credit card, you must make sure you are in the App Store, not the iTunes Store - look at the following link to find out how more:

bit.ly/ipad_withoutcreditcard.

An alternative method of buying Apps is to use iTunes gift vouchers which can be purchased at supermarkets, music stores etc. iTunes gift vouchers can be used by selecting the 'Redeem' button in iTunes. You will then be prompted to 'Enter your Gift Card or Download Code', similar to the illustration below.

One advantage of redeeming vouchers or gift cards to buy Apps through iTunes is that you can create an account and download Apps without using a credit card.

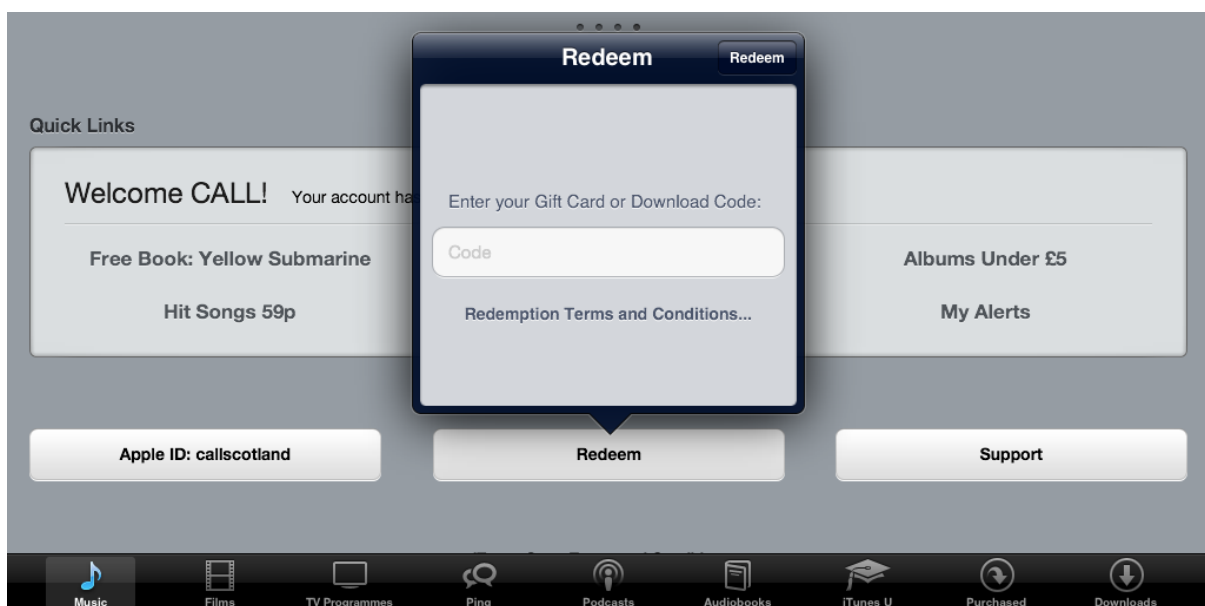


Figure 89: Select Redeem in iTunes to redeem gift vouchers.

3. Synchronising/backing up your iPad

During the set up process you also have an opportunity to synchronise your iPad. This means that you get to choose whether to set up your iPad from scratch or restore from a previous backup, for example, an iPhone. This would be particularly useful and time saving if you already have an extensive collection of Apps (and their relevant settings) that you want to transfer over to your new iPad.

If you are synchronising or backing up from a previous iPad or other device remember to select the option; 'Restore from the backup of' and select the device you want to backup from. Otherwise, select 'Set up as a new iPad'.

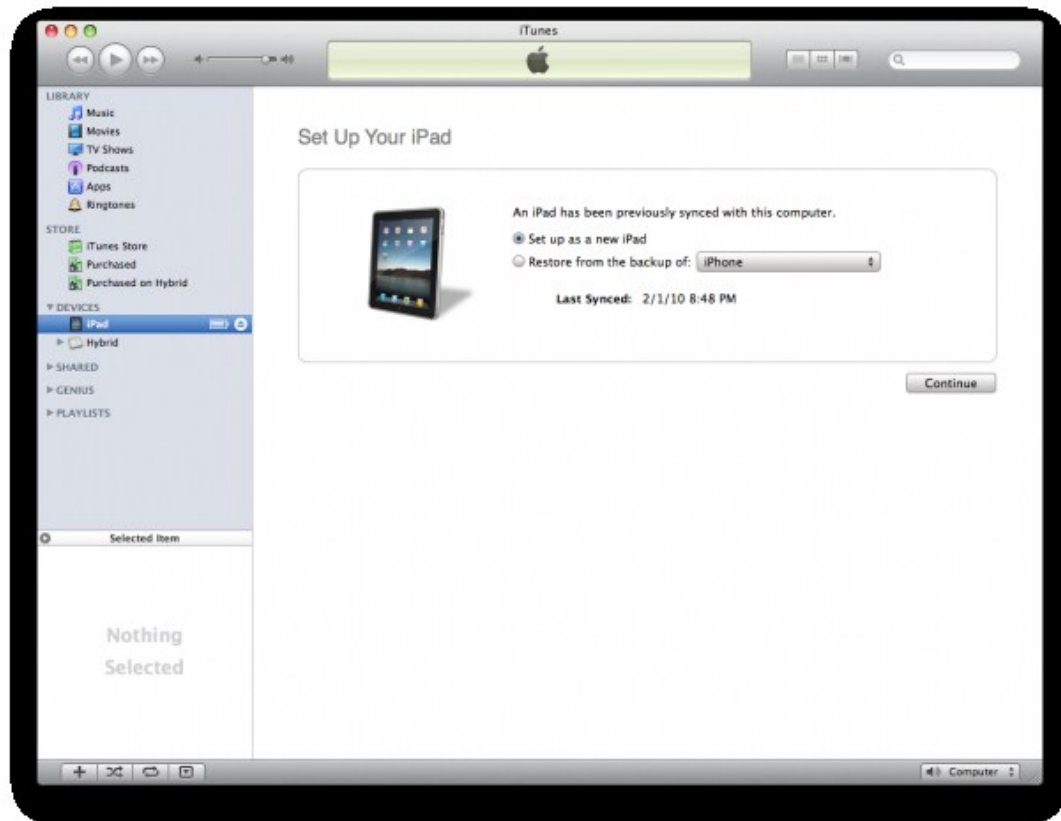


Figure 90: Synchronising and backing up the iPad.

4. Naming your iPad

As you head towards the final stage of setting up your iPad for the first time you'll be prompted to give your iPad a name. If the iPad is for personal use then it's entirely up to you the name you give it. However, if the iPad is part of a larger group of iPads you should consider giving each iPad a logical name, iPad1, iPad2 etc.

Don't worry if you want to change or rename your iPad at a later date as this can be done in iTunes when you connect your device. See the following tutorial for more information: bit.ly/rename_iPad

5. And finally...

The final stage or screen of the iPad set will be familiar to those who have used iTunes. This is where you can synchronise your contacts and calendar, organise your music collection as well as all your favourite Apps.

However, if you're new to iTunes then you can follow the step-by-step guide below. This screen has been divided into sections so you can follow it more easily but as you do so, try to think of it as whole screen or page. The Summary tab provides a detailed overview of your iPad - most of the detail here is based on the information you gave during the initial set up process.

1: iPad (Summary)

Figure 91: The Summary Tab.

Other tabs such as Apps, Music allow you to select and organise your music collection and choice of Apps.

2: Version

The Version section provides information on your iPad software. For the best performance and security of your iPad always try to keep your software updated. Select the 'Check for Update' button and iTunes and your iPad will do the rest.

You can also restore your iPad to its original settings, this can be useful if you experience a problem with your device. You should always backup your iPad before restoring it to its original settings.

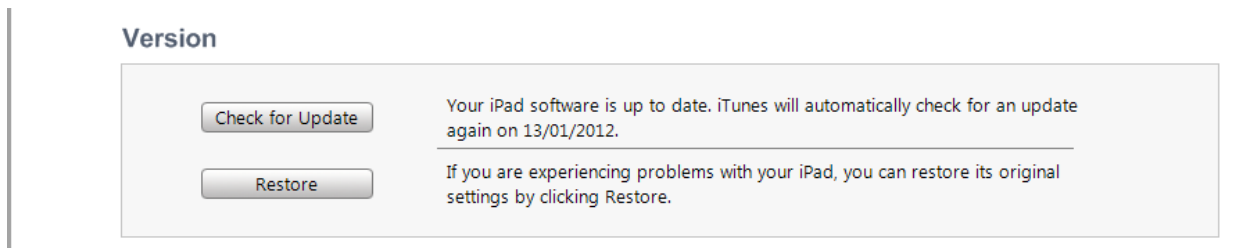


Figure 92: Checking the iOS Version.

3: Backup

With the introduction of iOS 5, you can also backup or synchronise your iPad wirelessly to the iCloud (a cloud/remote storage and cloud computing service) which offers up to 5 GB of free (online) storage. Backing up your information can be particularly useful if you lose your iPad - all your Calendar entries and Contacts are backed up in iCloud or iTunes.

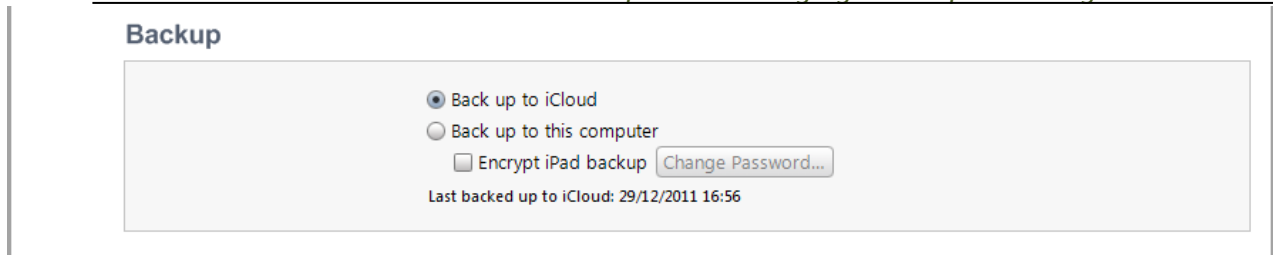


Figure 93: Backing up information via iCloud and/or a computer.

4: Options

The final section provides a range of options, such as how you want iTunes to start, syncing over a Wi-Fi and manually choosing to manage music and videos. Options also provides an opportunity to configure the Accessibility settings (Universal Access), however, this covered in more detail in Section 3 (Accessibility Options).

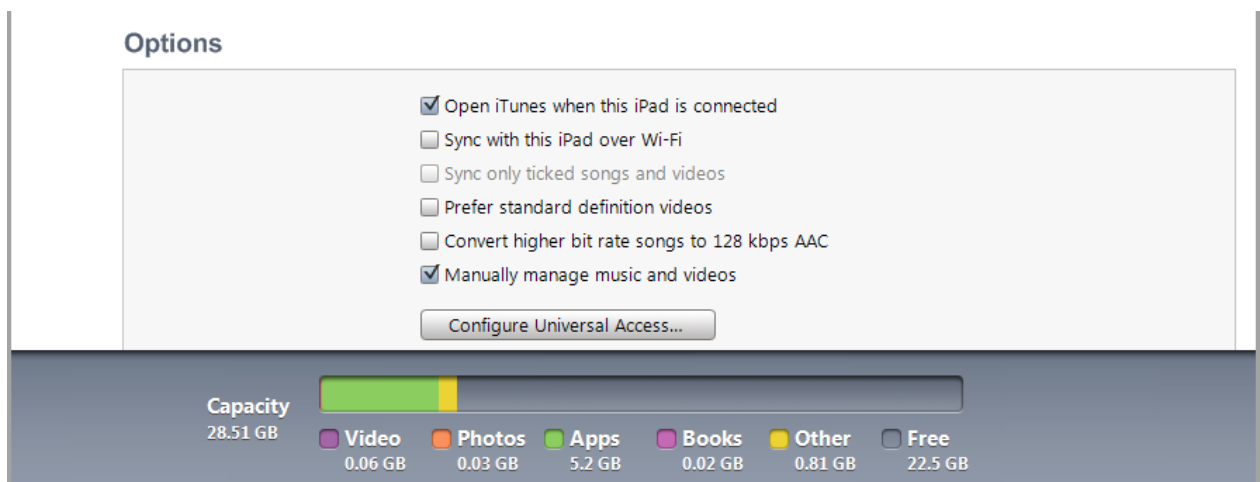


Figure94: Configuring Options.

5: Capacity

Just below the Options section you can see how much storage your device is using. Ultimately this will depend on the capacity or size of memory in your iPad (16 GB, 32 GB, 64 GB accordingly) but the capacity display also breaks down each component by relevant colours - Video, Apps, Photos etc.

You should always check to make sure you have plenty of 'Free' space on your iPad so that it runs efficiently and maximises battery life.

Organising Apps, Music and other tabs

The remainder of the tabs in iTunes, such as Apps, Music etc. allow you to manage what you want and don't want to have on your iPad.

For example, you can delete an App by pressing and holding the App till it starts 'jiggling' and pressing the cross (see tips for more information) but it is far better to organise your Apps from within iTunes.



Figure 95: Synchronising Apps and other content.

You can do this by selecting Sync Apps (on the Apps tab) which allows you to decide which Apps you want to install. You can also drag or move Apps from page to page (or screen to screen) by using this method.

For a more detailed overview of syncing Apps via iTunes select the following link: bit.ly/sync_apps

School Implementation and Management

There are so many things to keep in mind when considering a class or school iPad implementation, especially if you want everything, including the devices, to run smoothly in the classroom.

Deciding on how you intend to implement and manage a large number of iPads will be dependent on which route your organisation or school chooses, i.e. synchronising iPads manually or using Wi-Fi with iCloud.

For example, if you are intending using the same Apps on a large number of iPads you will need to consider appropriate licencing. You will be breaking the licence agreement if you purchase one App and use it (or synchronise the App) on multiple iPads.

Volume Purchasing Programme

In the U.S. the Volume Purchasing Programme allows educational institutions to purchase iOS Apps and books in volume and distribute them to students, teachers, administrators, and employees. Apple has announced that the Volume Purchasing Programme will be rolled out to the UK but they have still to confirm a date:

bit.ly/volumepurchaseUK

The Volume Purchasing Program allows school administrators/ICT staff to search for Apps, choose the quantity needed and pay for them in a single transaction. When a purchase is made, Apple sends redemption codes to the buyer for each application. The buyer can then email or distribute the redemption codes to whoever manages the iPads, i.e. ICT staff or even a teacher, so they can be installed on each device. Unfortunately the Volume Purchasing Programme is currently not available in the UK but according to Apple it is in the pipeline.

Alternative ways of buying Apps

If there is no credit card holder which is tied to an iTunes account, i.e. a school iTunes account, or no one in the school has the authority to purchase large amounts of Apps other methods of buying Apps include:

- Buying iTunes Store gift vouchers from supermarkets or other appropriate outlets;
- Buy iTunes vouchers and gift the vouchers (with redemption codes) to other users/iPads.

Managing iTunes and iPads

Once you have decided how you intend to purchase a large volume of Apps the next issue to consider is how you manage the Apps on both iTunes and the iPads. One possible approach is to give each device a unique name during the set-up process, i.e., an individual name that can be easily recognised, such as a numeric sequence, iPad 1, iPad 2, iPad 3 etc. If you have more than 10 iPads use iPad 01, iPad 02 and so on. You can always change the name of the device in iTunes at a later time.



Figure 96: Number iPads

As well as naming each individual device it is also recommended that all devices are synchronised to one iTunes account on a computer (preferably the same computer each time) using the unique name of each iPad.

This ensures that data is mirrored across each iPad. Every time you add or change media and data it can be synchronised with each of the devices.

This is vital for backing-up valuable data. The best way to synchronise multiple iPads to one computer is to use a USB hub similar to Figure 97, which can take up to 10 USB connections.



Figure 97: A multiple USB hub can help.

Battery life and charging iPads

With the release of the iPad 2 and New iPad the battery life is greatly improved. Nevertheless keeping iPads charged for a day's use is important if learners are using them constantly. While the USB hub is one way of charging multiple iPads simultaneously a dedicated charging/synchronisation trolley or cart, which can also provide security, is also worth considering.

The Bretford Powersync Cart http://bit.ly/powersync_cart is one example, another is the UnoCart: <http://bit.ly/unocart> - allowing large numbers of iPads to be simultaneously synchronised, charged and kept securely locked.



Figure 98: Syncing, charging multiple iPads securely.

Another example is the MultiDock, Griffin Technology's modular charge/sync/security solution. Up to 30 iPads can be linked and synced at once using the USB hub that connects to any computer with an iTunes account via a single USB connection.

The MultiDock also comes with a desk locking system for security. For more information on the Griffin MultiDock visit the Griffin MultiDock website: www.griffintechology.com/business/multidock



Figure 99: The Griffin MultiDock

Policy and procedures

Just like any other ICT equipment, implementation and management of iPads requires a workable policy and procedures for issues such as prevention and consequences of misuse, restriction of Apps, iPad class-pupil distribution and collection.

Policies and procedures will most likely be unique to each school for example, schools will differ in the amount of 'Restrictions' they make available or whether a 'Passcode Lock' (in Settings) code is set on some or all of the iPads. Restrictions, also known as Parental Controls, on an iPad prevent access to specific features and content.

Useful Resources

Online resources such as Tony Vincent's Learning in Hand:

<http://learninginhand.com/do> (good tips on creating a 'usage contract') and Sam Gilksman's social media site iPads in Education: bit.ly/ipad_implementation provide useful information on a range of issues such as infrastructure considerations, group device management, application usage and much more.

The iPads in Education also provides some useful thoughts on pedagogical considerations in terms of how iPads are to be integrated into educational processes and the curriculum.

Personal iPads

As iPads become increasingly ubiquitous increasing amounts of learners are bringing their own iPads into school. It is therefore important that the school also considers potential problems and scenarios such as technical issues, theft, breakage, loss, insurance etc. A possible scenario is a pupil who brings an iPad into school but the 'Restriction' settings to content is different to the schools. Personal iPad usage should therefore be considered as part of the school's overall iPad policy.

For further information see Appendix 1: iPad Management using iTunes: some useful tips.

Glossary of Terms

3G	Third generation data networking used by phones and mobile devices to be able to connect to the Internet or other IP networks anywhere, anytime iPhones have it built-in, for iPod touch and iPad, you need to buy the dearer 3G version.
AAC	Augmentative and Alternative Communication, is an umbrella term that covers all/ any communication methods used to supplement or replace speech or writing for those with impairments in the production or comprehension of spoken or written language, e.g. a symbol communication book, voice output communication aid.
Adobe Flash	Adobe Flash (formerly Macromedia Flash) is a multimedia platform used to add animation, video, and interactivity to web pages. Adobe Flash is currently not supported in iOS.
App	Short for “application.” The programs you download and run on an iPad (or any smart phone or tablet PC).
App store	An online place to buy Apps and games for iOS, part of iTunes on Windows and Mac, and a built-in App on iPhone, iPod touch, and iPad.
Apple ID	An email address registered with Apple, typically for iTunes, the Apple Online Store, or Apple Discussion groups. Useful to have this in addition to your ‘ordinary’ email address.
bit.ly	A web service owned by ‘bitly’ that allows you to shorten long complicated URLs. See https://bitly.com/
Blog	(weB LOG) an on-going internet-based publication, in chronological format, often focusing on a mix of news, commentary, and analysis, with frequent links to other sites on the web.
Bluetooth	A wireless technology used for exchanging short-range data between electronic devices.
Facetime	Apple’s video calling service that requires Wi-Fi.
Folders	An icon representing a group of Apps, created by dragging on App on top of the other in Jiggly Mode, and deleted by removing all the Apps.
Freemium	An App that allows a customer to check out the basics or try out a game for free, with upgrades available for a price.
GB	Gigabyte - a measure of disk storage capacity. Gigabyte - a measure of disk storage capacity. As a guide, Windows 7 itself requires 1 GB, and most computers you can buy today would have minimum 2GB, usually much more.
Gestures	Some functions on some touchscreen devices can be operated by multi-touch gestures and animations.

Google	The biggest company on the net and the provider of the maps data, YouTube videos, and Gmail for iOS users.
HD/XL	Those labels are used to differentiate native iPad Apps from Apps that were designed to run on the iPhone and iPod touch. HD and XL (standing for "high definition" and "extra-large") indicate that the Apps were written for the iPad's screen and that they don't need to be scaled up to fill the entire screen.
Home button	The physical hardware button on the front of the iPhone, iPod touch, and iPad, beneath the screen. Used to wake, return to the Home Screen, cycle between the Home Screen and Spotlight Search screen, open the Fast App Switcher, and optionally enable Accessibility features.
Home screen	The front end of Apple's Springboard App launcher that consists of 11 screens that hold app icons, Folders, the Dock, the Fast App Switcher, and the Spotlight Search screen.
iCloud	Apple's online service, that allows users to store and synchronise data such as music files on remote computer servers for download to multiple devices.
ICT	Information and Communication Technology.
iOS	Apple's mobile operating system and the software that powers the iPhone, iPod touch, iPad, and Apple TV.
In-App purchase	While you are running an App, some will offer you upgrades, new content, or complementary features that you can purchase directly from within the current App (rather than having to go back to the App Store).
iPad	Apple's first tablet device, that runs a modified version of iOS optimized for its larger, 9.7" screen.
iPhone	Apple's line of Internet-based and multimedia-enabled smartphones.
iPod	Apple's line of portable media players: Nano, Shuffle, Classic, iPod touch.
iPod touch	iPod handheld with a 3.5" screen.
iTunes	Mac and Windows software used to activate and sync iPhone, iPod touch, and iPad. Also used to manage music, movies, TV shows, Apps, books, and other media, and access the Ping social music network.
Jiggly mode	Tap and hold an App and it will begin to "jiggle", indicating you can move them around the Home Screen, from screen to screen, put them into folders, delete them by tapping their X badge (App Store Apps only), or Force Quit them if they're in the Fast App Switcher.
Lite	An App type that allows a customer to check out the basics or try a game for free, with upgrades available for a price.

PDF	Portable Document Format - an open standard for document exchange.
QR code	Quick Response Code— is the trademark for a type of matrix barcode. Users with a camera phone equipped with the correct reader application can scan the image of the QR Code to display text, contact information, connect to a wireless network, or open a web page in the telephone's browser.
SIM card	The little card used in GSM phones that connects the phone to the network.
Sleep/Wake button	Physical hardware button on top of the iPhone, iPod touch, and iPad. Used to power on, wake from sleep, put to sleep, and power down iOS devices.
Spotlight search	Part of the iPhone, iPod touch, and iPad Home Screen system, accessible by swiping left to right or clicking the Home Button when on the primary Home Screen, or inside Apple Apps like Messages, Mail, Contacts, iPod, etc. Performs text-based search and shows results for contacts, Apps, music, podcasts, videos, audiobooks, notes, mail, calendar events, and SMS messages.
Sync	Short for synchronise: content on device can be synchronised with desktop applications such as Calendar, images, music and contacts. Also the mechanism whereby backups would be made on your computer.
Tethering	Sharing your iPhone's data connection with your laptop via USB (dock cable) or wirelessly via Bluetooth. Not available on all mobile networks and some charge extra for it. Replaced in iOS 4.3 with Personal Hotspot.
Twitter	One of the most popular social networks built around a follower/following system rather than friends, and limited to 140 characters (think micro-blog meets SMS).
Universal	A universal App that runs on both the iPhone/iPod Touch and the iPad. (see HD/XL above)
URL	Universal Resource Locator - a specific internet address for any web site, documents or other resources. Usually looks like this: http://www.callscotland.org.uk/Resources/Books/
USB	Universal Serial Bus - a widely used method of connecting devices (e.g. keyboard, mouse, memory stick, camera etc.) to a computer.
Wi-Fi	A mechanism that allows electronic devices to exchange data wirelessly over a computer network. Widely available in homes and workplaces, public places.

Appendix 1: iPad Management using iTunes: some useful tips.

All of the following management tips are using iTunes on a computer but you can also use iCloud (<https://www.icloud.com/>) if your device is on the iOS5 (or later) and you are happy with your Wi-Fi network.

In Chapter 7, Managing and Implementing the iPad there is an illustrated guide to setting up and using iTunes for first time users. This Appendix provides a more detailed overview of synchronising and managing iTunes accounts.

1: Disabling auto synch on iTunes

By default iTunes will create an exact mirror of the iTunes library on the device. So, if content on iTunes is deleted then it will also be deleted on the device! If you would prefer to control when your device syncs with your iTunes library on your computer then it's best to turn this feature off.

On a PC:

1. Edit>preferences>devices.
2. Tick the 'Prevent iPods, iPhones and iPads from syncing automatically' checkbox.

On a Mac:

1. iTunes>preferences>devices.
2. Tick the 'Prevent iPods, iPhones and iPads from syncing automatically' checkbox.

Tip 2: Authorise your iTunes store account(s) on your computer

Authorising (and deauthorising) a computer allows you to manage which computer can sync your Apps, music and movies to your device. If you don't authorise your computer then you won't be able to upload your Apps to your device. You can authorise 5 different computers with your iTunes store account.

To authorise a computer:

1. Store>Authorise This Computer.
2. When prompted, enter your Apple ID and password.
3. Click 'Authorise'.

To deauthorise a computer:

1. Store>Deauthorise This Computer.
2. When prompted, enter your Apple ID and password.
3. Click 'Deauthorise'.

To deauthorise all computers associated with your computer at the same time:

1. Store>View my Account;
2. When prompted, enter your Apple ID and password.
3. Click the 'Deauthorise All' button on the right hand side of the page under 'Apple ID Summary'.

Tip 3: Check for App updates on iTunes and download

When an App(s) is updated by the producer, iTunes will notify you of this update. Under 'Library' on the left hand menu click you will see a number (representing number of App updates) beside 'Apps' if any updates are available.

To download the latest updates:

1. Under 'Library' on the left hand menu click on 'Apps' which will display all your downloaded Apps.
2. Click on 'x Updates available' (x is the number of updates) in the bottom right hand corner.
3. Click on the 'install all free updates' button to download them all.

If you have multiple accounts on iTunes then you will have to do this for each by logging into each account in turn. This is why in iTunes it can still display updates as still needing downloaded even if you have just downloaded them.

Tip 4: Transfer purchases from your iPad to your computer iTunes account

It's possible to purchase Apps, music and movies on your device and download them without actually connecting and performing a sync on your computer.

Consequently they are only stored on the device and so you may want to transfer them to your computer to protect against losing them.

To transfer them to your computer you first need to log out of your account on the device as it can cause problems if you have Apps purchased under multiple accounts. To do this, on the device:

1. Select Settings>Store.
2. Click on the 'Apple ID: username' button and log out.

Then to transfer onto your computer connect the device to iTunes with the USB cable. At this stage a popup box may appear prompting you to transfer your purchases. However, the manual way to do this:

1. Right-click (Windows or Mac) or Control-click (Mac only) your device from the left hand menu.
2. Click on transfer Purchases from "Your device name" from the menu.

Tip 5: Backing up your device

It's possible to keep a copy of all your App data, settings, Calendar accounts, Contacts, etc. in a backup file. However, the backup file will not contain all of your Apps but this is not a big issue as iTunes on the computer has a copy of each (as well as on your device!).

If you end up losing some App data or making changes that you wished you hadn't then you can restore the device from that backup.

To create a backup

1. Plug the device into the computer.
2. Select the device in iTunes (left hand menu).
3. Right-click (Windows or Mac) or Control-click (Mac only) your device from the left hand menu.
4. Select 'Backup'.
5. The indicator at the top of iTunes will notify you of the progress.

iTunes will store one backup copy per device and so if you wish to make a number of backups (restore points) then you may wish to make copies and put them elsewhere such as a backup disk. Why? It is very easy to run a backup, modify a device and then accidentally run another backup which overwrites the previous backup. You then realise that you actually needed that one to restore the device!

The location of the iTunes backup directory:

- **Mac:** Users\Your Name\Library\Application Support\MobileSync\Backup.
- **PC (XP):** C:\Documents and Settings\Your Name\Application Data\Apple Computer\MobileSync\Backup.
- **PC (Windows Vista, 7):** C:\Users\Your Name\AppData\Roaming\Apple Computer\MobileSync\Backup.

If there has been a backup taken there will be a folder in this directory with a 40 character long filename. This name represents the unique identifier for the device.

If you have multiple devices then the best way to identify it is look at the 'modify date' of the folder after you take the backup and simply copy that folder to the backup drive. When you need it again simply copy it back overwriting what is there.

To restore a device from a backup

1. Plug the device into the computer.
2. Select the device in iTunes (left hand menu).
3. Right-click (Windows or Mac) or Control-click (Mac only) your device from the left hand menu.
4. Select 'Restore'.

Note: This will restore your settings, App data, etc. but not the actual Apps. So, if you have removed some Apps since the backup then you will have to sync the Apps back on after the data restore.

Tip 6: Multi synching with a USB hub

It's possible to connect multiple devices up to your computer and sync via iTunes at the same time. To do this you will require a powered USB hub connected to the computer. When you connect the devices via their USB cables to the hub they will all show up in iTunes at the same time and can be individually manipulated which can save time and fuss.

One thing you will notice on each device is the words 'not charging' in the menu bar of the device. The reason for this is that there is not enough power to charge multiple devices at one. However, you can still sync them all but just ensure that they all have enough battery life for the sync.

Tip 7: File Sharing between Apps

Some Apps will allow data to be transferred (or stored) from one device to another. You may then wish to transfer this App data to another device with the same App. This can be good if you wish to save a template(s) for an App to be used at a later date when required. I will use the App 'MyPics' as an example of how to do this.

1. Plug the device into the computer.
2. Select the device in iTunes (left hand menu).
3. Select 'Apps' from the top of the page.
4. Scroll down the page to 'File Sharing'.
5. Select the App.

You will see all the files associated with that App in the 'Documents' window. You can then select all of these and send them to your desktop using the 'Save to' button.

To transfer these files to your other device repeat the steps above and then click on the 'add' button and select all the files from the desktop. You will be prompted that it will overwrite any existing files (i.e. any data on that device will be lost) so if you are happy to do so then proceed. You may have to shut down the App and start it back up to see any changes.

Tip 8: Transferring images and videos between your device and computer

There are two scenarios for this:

1. Transferring images or videos from the computer to your device.
2. Transferring images or videos from the device to your computer.

To transfer images or videos to the device from your computer you will need to setup a folder to sync it from first:

1. Plug the device into the computer.
2. Select the device in iTunes (left hand menu).
3. Select 'Photos' from the top of the page.
4. Click on the 'Sync Photos from' check box and choose a folder where the photos and videos will be 'pulled' from.
5. To include videos ensure that you also check the 'Include videos' checkbox.

Next time you perform a sync these will be uploaded to the device.

Caution: a synchronisation will make a mirror of the files on your computer to the device so any images or videos on the device not on the computer will be deleted! See the next step to prevent this.

To transfer images or videos from your device to the computer you:

On a Mac

1. Plug the device into the computer.
2. Open iPhoto.
3. Select the device name in the left hand column.
4. All the images which have been downloaded or taken via the camera will be displayed.
5. Drag and drop them to your desktop or to the folder where you will sync to the device in future.

Note: only images taken with the camera or downloaded will be shown. Previous items that have been synched will not.

On a PC

1. Plug the device into the computer.
2. Open 'My Computer'.
3. Select the device.
4. Navigate the folders and retrieve and images to your desktop or to the folder where you will sync to the device in future.

iPads for Communication, Access, Literacy and Learning (iCALL)

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